

Ansible Automation Platform for ServiceNow ITSM

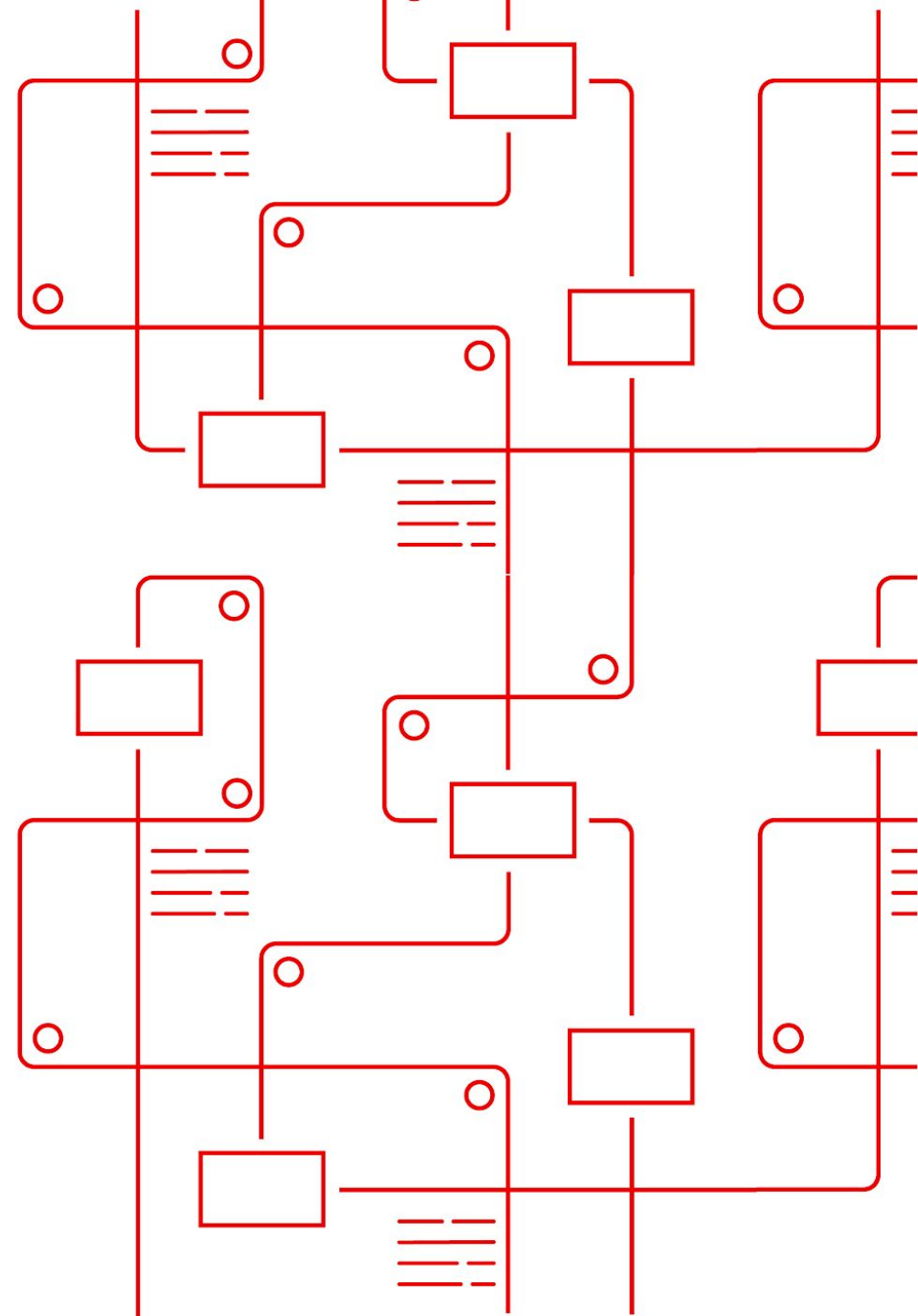
Ansible for ServiceNow ITSM

Increase the value and efficiency of your ITSM

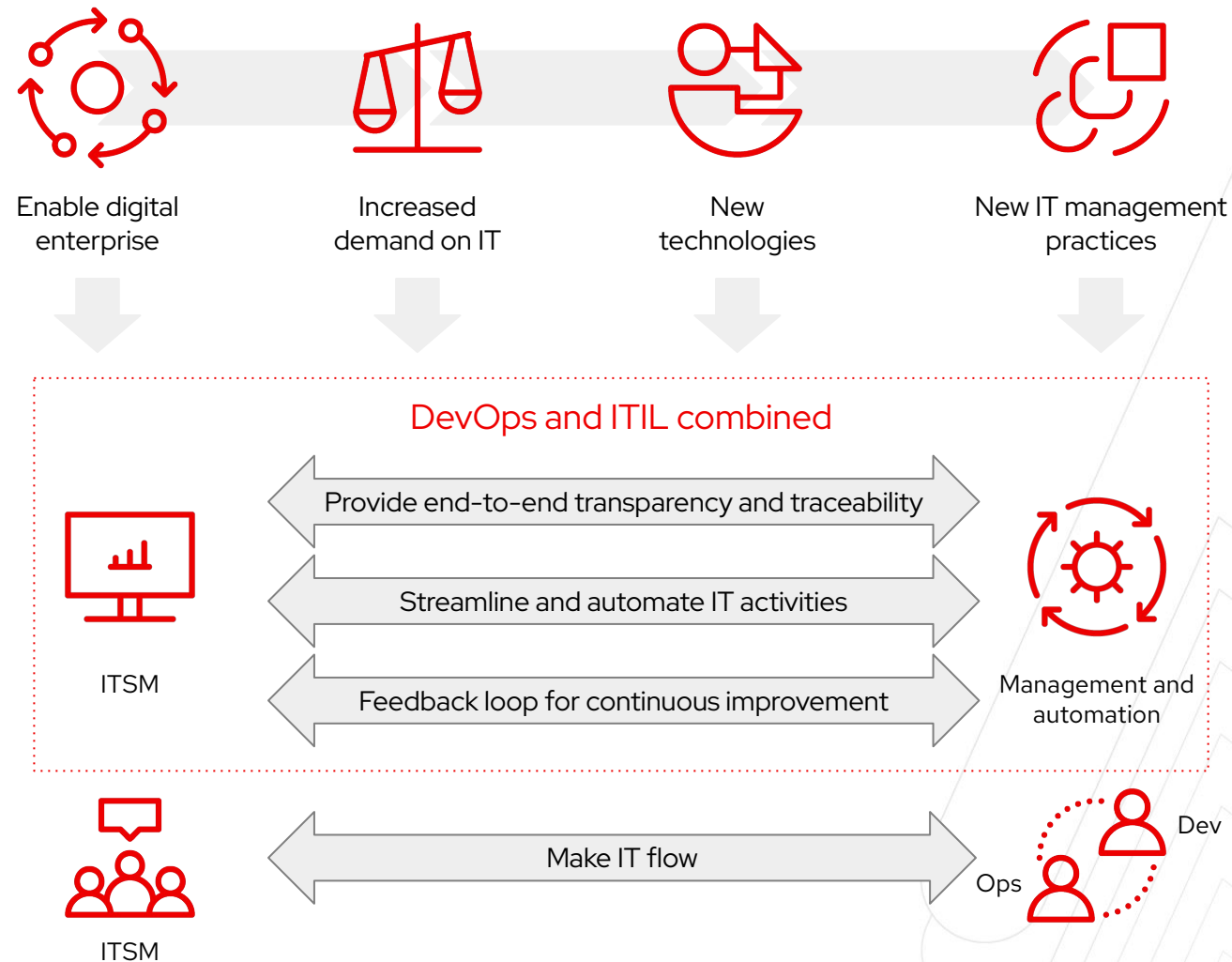


- Enable “closed loop” automation of ITSM workflows without time-consuming manual intervention
- Open, close and update ServiceNow ITSM requests through automated workflows
- Automate common service request actions and remediation events
- Establish ServiceNow CMDB as a single-source-of-truth inventory source
- Proactively respond to events in your infrastructure with Event-Driven Ansible plug in

Overview



IT Organizations Moving to New Operational Models



“““



Organizations **must adopt automation**, as it is not possible to scrutinize and manually execute every change.

This approach can be used to **improve existing change management practices or to build new change management practices.**

Gartner

Source:

[How to Implement a Modern IT Change Management Practice](#), April 15, 2020

Ansible Automation Platform for ServiceNow ITSM

Integrated automation for greater speed, accuracy, and efficiency

servicenow

DevOps and ITIL Combined

- ✓ Change management
- ✓ Incident management
- ✓ Problem management
- ✓ CMDB updates

 **Red Hat**
Ansible Automation
Platform

Make ITSM your superpower

Deliver more resilient services, increase productivity, and improve mean time to resolution (MTTR)

Enterprise IT automation

Integrate automation into ServiceNow AND other infrastructure workloads for end-to-end automation workflows

 **Red Hat**
Ansible Automation
Platform

IT Service Management Key Phrases

Incident



An unplanned outage or reduction in quality of an IT service or application

Problem



The cause of one or more incidents - The root cause of the problem may not be known at the time of creation and may represent a root cause analysis through the problem management process.

Change



Anything added, removed, or modified to address a problem that may be related to a past or ongoing incident

New!

Ansible Certified Content Collection for ServiceNow ITSM 2.0

API for Red Hat Ansible Automation Platform Certified Content Collection*

**API for Red Hat Ansible Automation
Platform Certified Content Collection and
Event-Driven Ansible Notification Service**

Integrates EDA and Ansible
Certified Content Collection for
ServiceNow ITSM into your
ServiceNow instance

Available at
store.servicenow.com



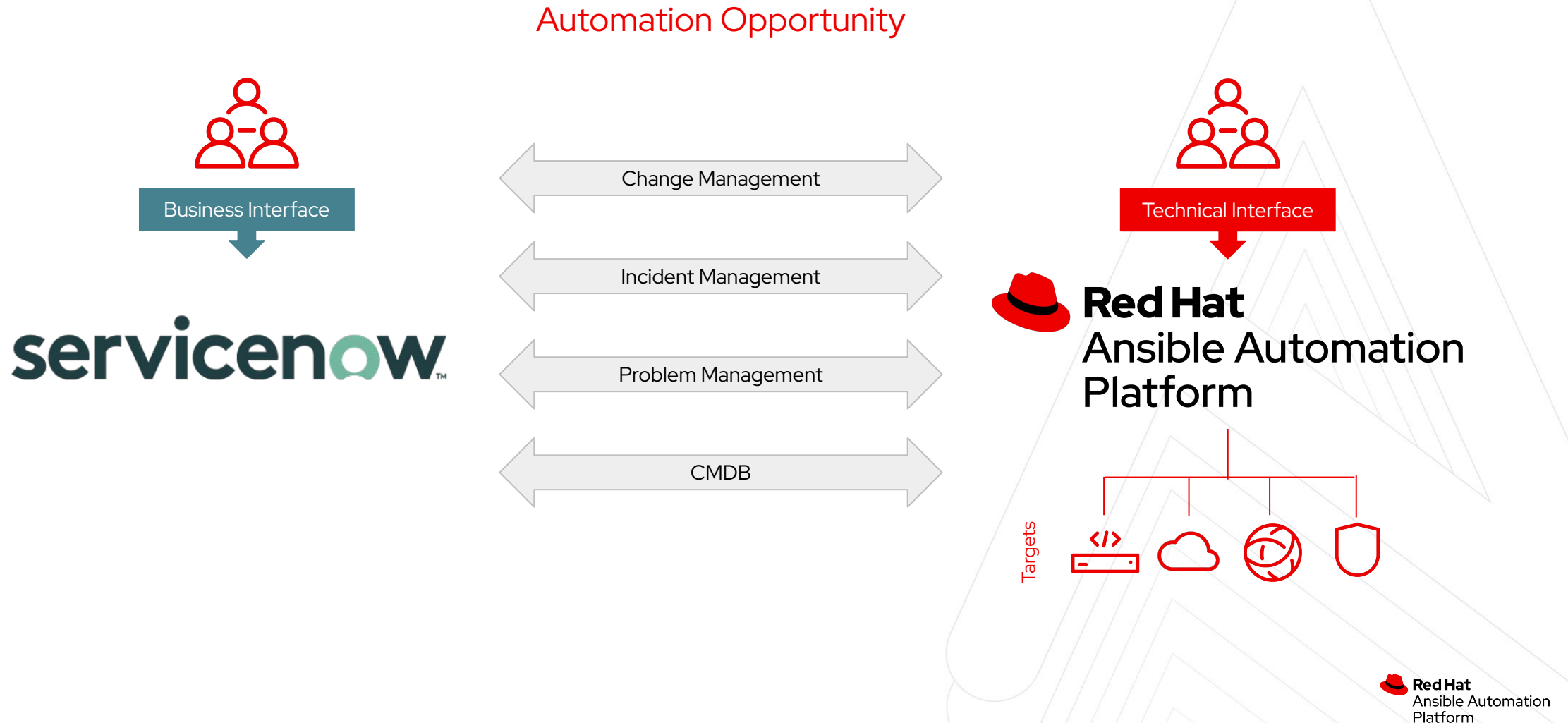
**Ansible Certified Content Collection
for ServiceNow ITSM**

Helps create new automation
workflows faster; while
establishes a single source of
truth in the ServiceNow
CMDB.

Available at
console.redhat.com

**For ServiceNow ITSM releases Tokyo and later*

Ansible Automation Platform for ServiceNow Solution



Customer Implementations



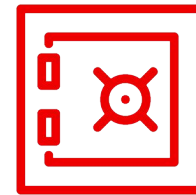
Insurance

Initiate on-demand self-service provisioning and patching using Ansible Automation Platform



Oil and Gas

Automatically create the incident ticket and initiate remediation, e.g., virtual machine disk is filling up.



Financial Services

Gather facts and enrich and update CMDB configuration items as changes occur through automation.



Government

Automatically trigger Ansible playbooks from user service requests in ServiceNow.

Ansible Automation Platform for ServiceNow Solution

Available via ServiceNow Store and Automation Hub

New in Q1 2024

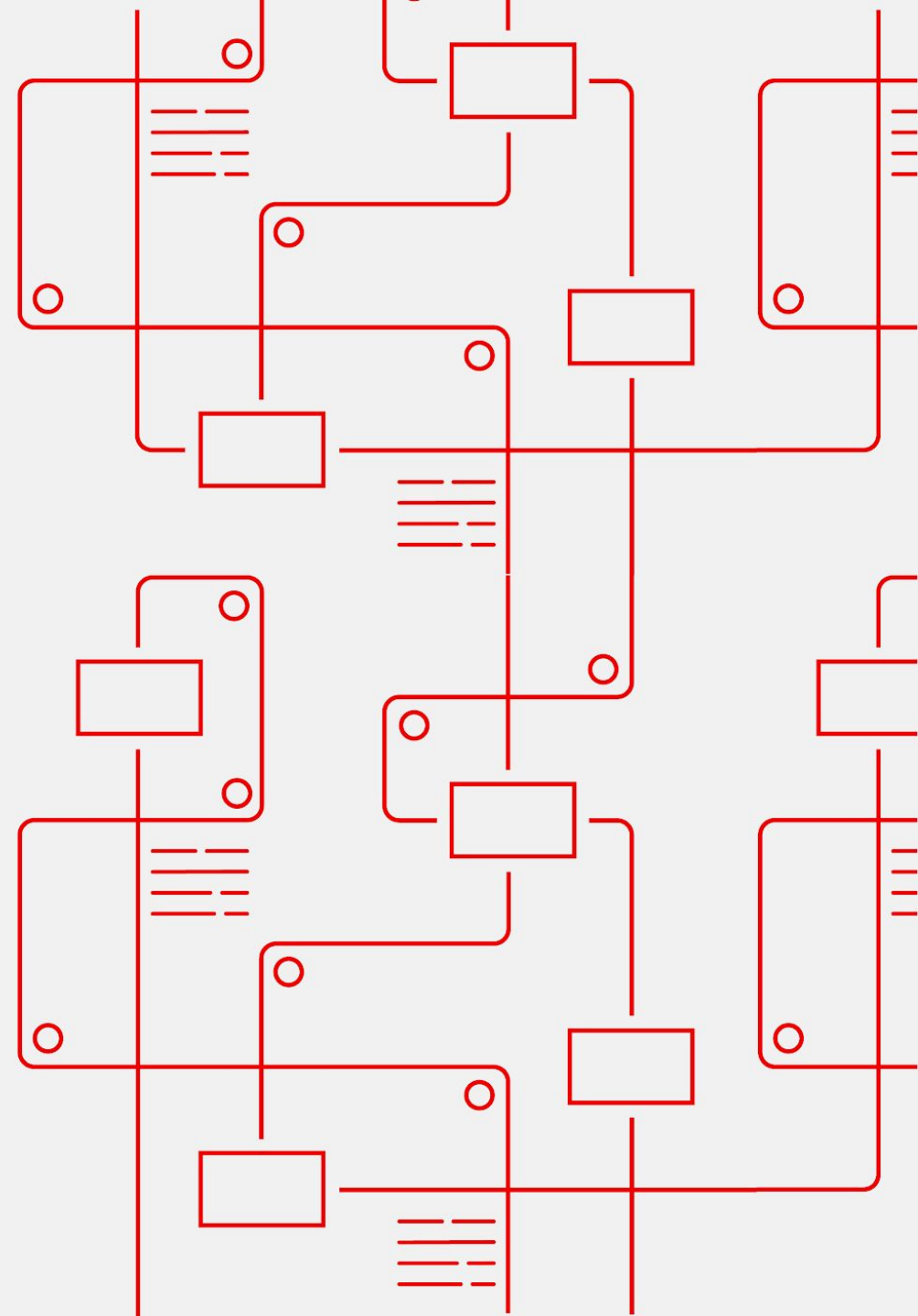
ServiceNow Event-Driven Ansible Notification Service:

- ServiceNow store application
- Outbound incident, problem and catalog item activity notifications to Ansible Automation Platform EDA service
- Respond to ServiceNow activity with Ansible automation jobs
- More easily maintain CMDB as SSOT without intervention
- Closed loop automation

servicenow.itsm 2.0 enhancements:

- ServiceNow URI module for direct REST API interactions where a purpose made module does not exist.
- Integration of Ansible ServiceNow content with a scripted ServiceNow Store application.
- Modules to manage Change Request, Incidents, Problems and Problem Tasks
- Query support to info modules
- Advanced inventory features for creating i.e., creating groups based on CMDB relationships, fine grain fetching

ServiceNow Use Cases



Ansible for ServiceNow solution

Components



Outbound notifications of ITSM activity

Ansible Automation Platform users can configure ServiceNow ITSM to send events from specified tables to Event-Driven Ansible

Automate the execution job templates and inventory in AAP environment from the ServiceNow instance

Available in [ServiceNow Store](#)



Red Hat
Ansible Automation
Platform

Infrastructure integration and task automation

servicenow.itsm - Certified Content Collection

- ServiceNow Modules
- ServiceNow CMDB Inventory PlugIn

Distributed through Ansible automation hub and included into the Ansible Automation Platform subscription

Event-Driven Ansible – ServiceNow ITSM integration

Events to human observation

EDA

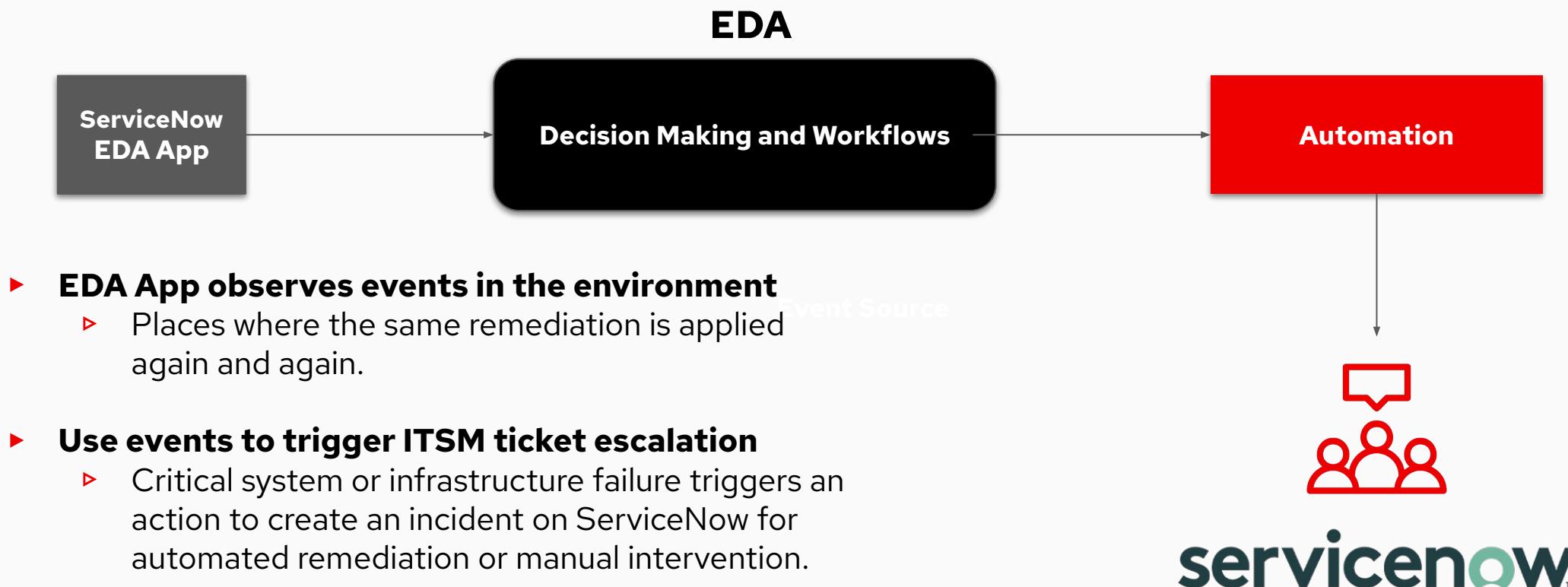


- ▶ **Observe events in the environment**
 - ▶ Places where the same remediation is applied again and again.
- ▶ **Use events to trigger ITSM ticket escalation**
 - ▶ Critical system or infrastructure failure triggers an action to create an incident on ServiceNow for human intervention.
- ▶ **Update ServiceNOW CMDB**
 - ▶ Infrastructure changes can be observed and used to trigger ServiceNow to update its inventory



Event-Driven Ansible – ServiceNow ITSM integration

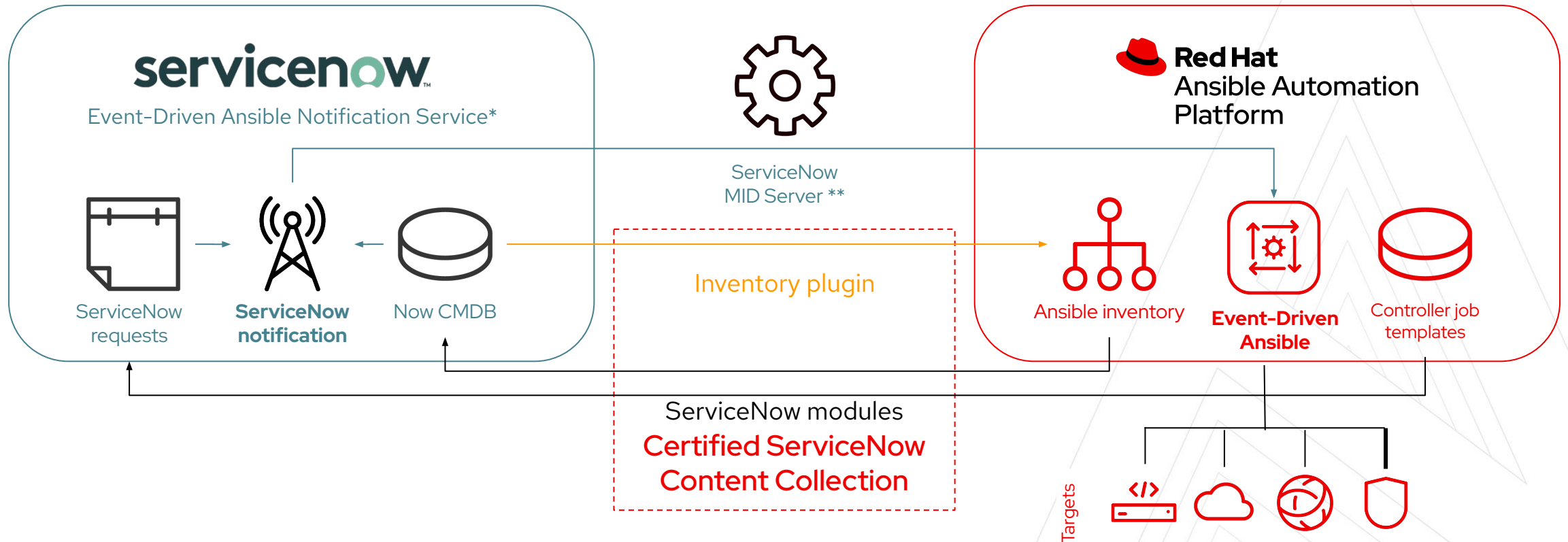
Events to human observation



- ▶ **EDA App observes events in the environment**
 - ▶ Places where the same remediation is applied again and again.
- ▶ **Use events to trigger ITSM ticket escalation**
 - ▶ Critical system or infrastructure failure triggers an action to create an incident on ServiceNow for automated remediation or manual intervention.
- ▶ **Update ServiceNOW CMDB**
 - ▶ Infrastructure changes can be observed and used to trigger ServiceNow to update its inventory

Ansible for ServiceNow solution

Logical architecture



* Distributed through ServiceNow Store

** Optional

Automated change request fulfillment



User creates a change request



servicenow



Change Request



ServiceNow notification



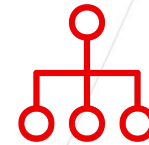
NOW CMDB

1) ServiceNow event notification sent to Event-Driven Ansible

2) Ansible Inventory loaded from CMDB with inventory plugin



Red Hat
Ansible Automation Platform



Ansible Inventory



Event-Driven Ansible



Controller Job Templates

4) Information on task results are loaded via ServiceNow Modules into the Change Request that is then closed

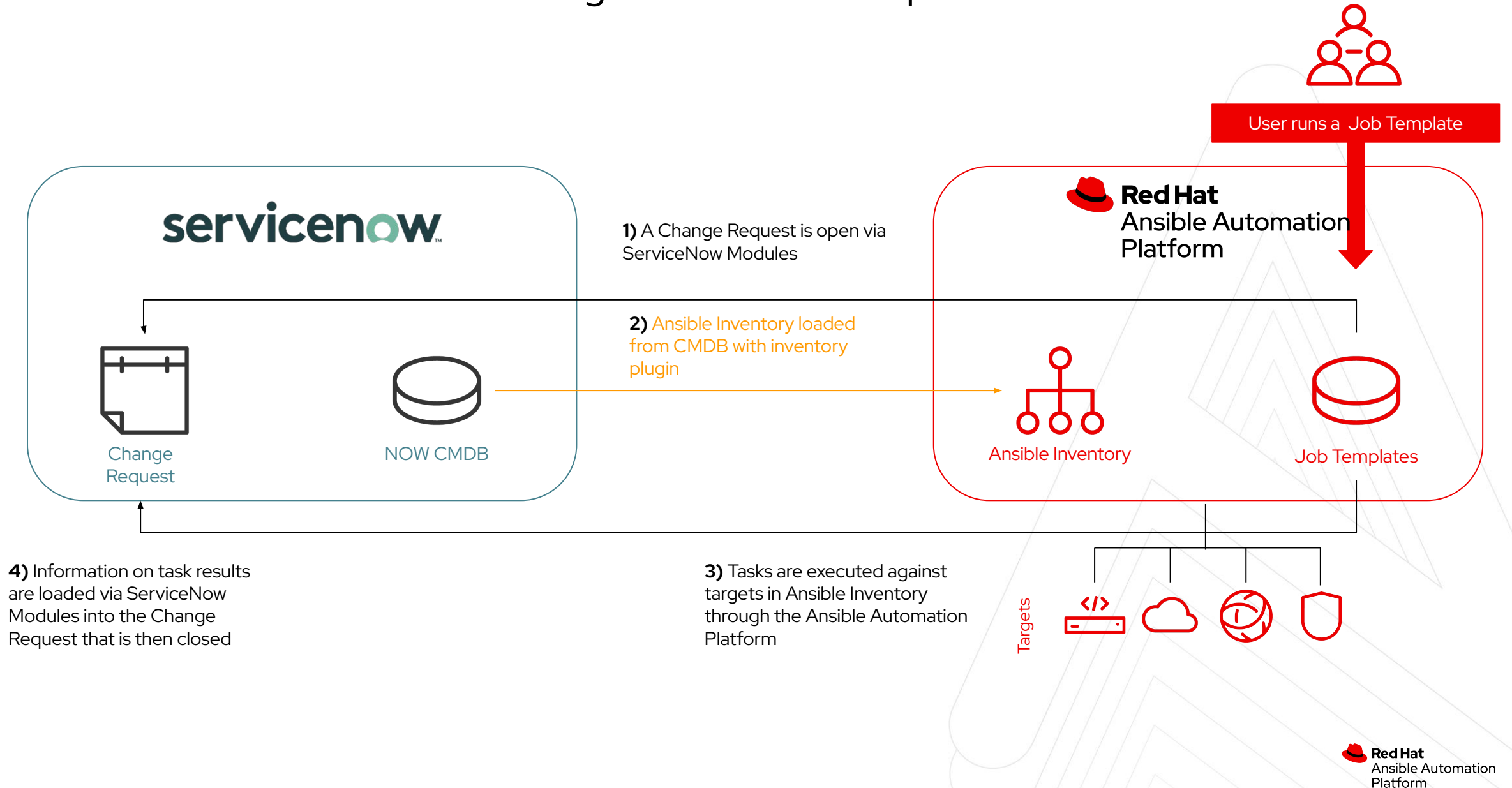
3) Tasks are executed against targets in Ansible Inventory through the Ansible Automation Platform

Targets

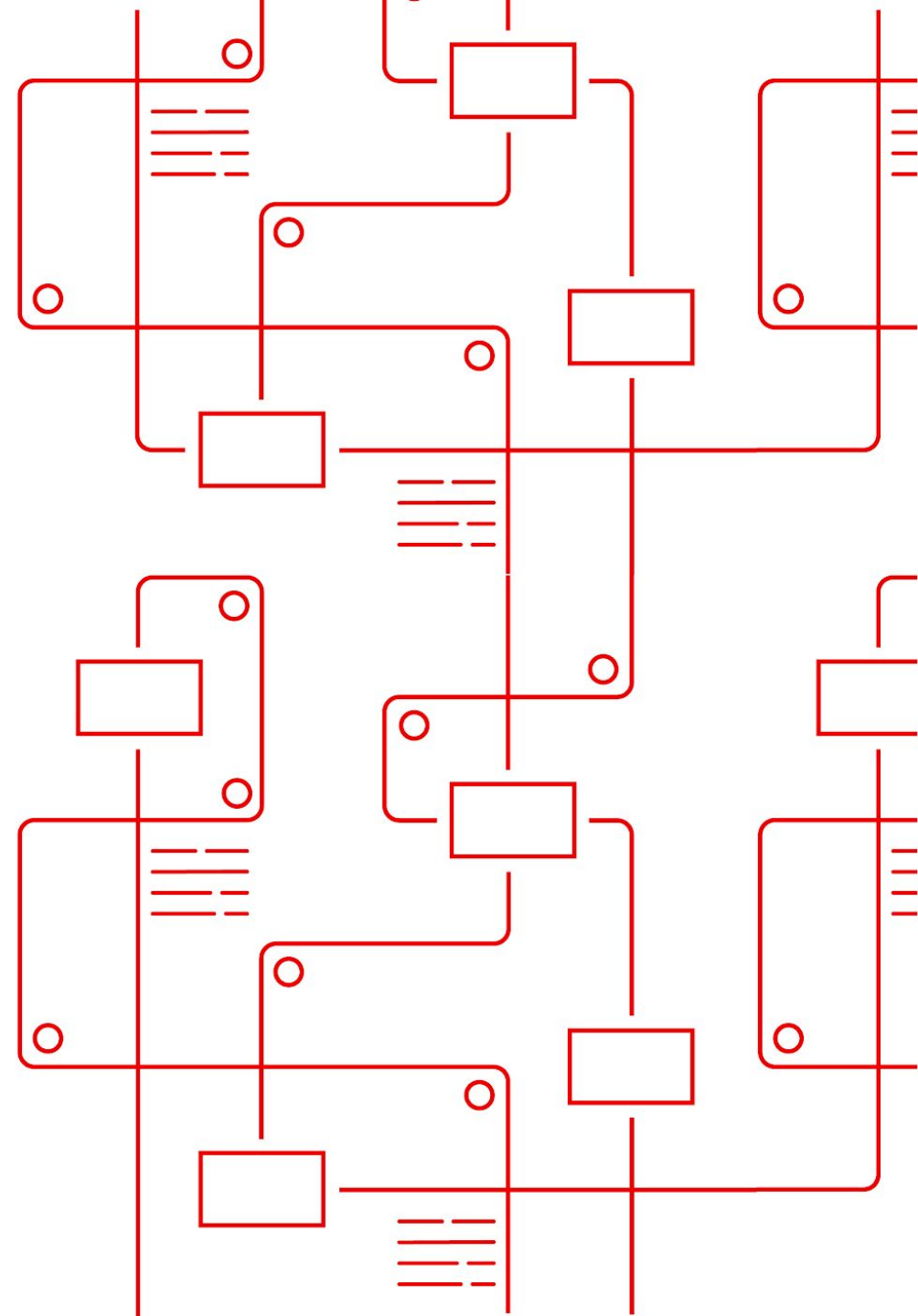


Red Hat
Ansible Automation Platform


ITSM filing of automated operations



ServiceNow Implementation



ServiceNow Store component




API for Red Hat Ansible Automation Platform Certified Content Collection

Connect your ServiceNow ITSM with the Ansible-certified Content Collection for ServiceNow

Red Hat Inc TPP
Compatibility: Tokyo, San Diego, Rome

Pricing
Free



Certified App

- Allows greater control and stability of endpoints leveraged by collection modules
- Roles required for service account documented in Installation Guide on the store page
- No additional ServiceNow configuration needed post installation
- Compatible with latest release

[API for Red Hat Ansible Automation Platform Certified Content Collection](#)

ServiceNow Store component



Event-Driven Ansible Notification Service

Enable Event-Driven Ansible to automatically respond to and/or remediate incidents within your ServiceNow ITSM

Red Hat Inc TPP

Compatibility: Vancouver, Utah, Tokyo

Pricing

Free

now

Certified App

- Outbound notification service for ServiceNow events on specified tables
- Application permissions documented in installation documentation
- Simple configuration options including webhook URL, shared secret, support for MID Server and connectivity testing
- Compatible with latest releases

[Event-Driven Ansible Notification Service](#)

ServiceNow Authentication

Connecting to an instance

What's wrong here?

Plain text password?

```
---
- name: Sample playbook
  hosts: localhost
  gather_facts: false

  tasks:
    - name: Create a new incident
      servicenow.itsm.incident:
        # Instance data
        instance:
          host: https://dev12345.service-now.com
          username: user
          password: pass
          client_id: cid
          client_secret: csecret
```

ServiceNow Authentication

Input Configuration

```
fields:
  - id: SN_HOST
    type: string
    label: Snow Instance
  - id: SN_USERNAME
    type: string
    label: Username
  - id: SN_PASSWORD
    type: string
    label: Password
    secret: true
required:
  - SN_HOST
  - SN_USERNAME
  - SN_PASSWORD
```



[Read this blog!](#)

Injector Configuration

```
env:
  SN_HOST: '{{ SN_HOST }}'
  SN_PASSWORD: '{{ SN_PASSWORD }}'
  SN_USERNAME: '{{ SN_USERNAME }}'
```

Use case: Incident management

Something happened:
Create an incident

Attach a sosreport to
the incident

```
- name: Create new incident
servicenow.itsm.incident:
  caller: admin
  state: new
  short_description: Demo incident
  attachments:
    path: /tmp/sosreport.bz2
  impact: low
  urgency: low
  register: incident
```


Use case: Incident management

Create a problem

Attach it to existing incident

- name: Create a problem from incident
servicenow.itsm.problem:
 short_description: Demo problem
register: problem
- name: Update incident with a problem information
servicenow.itsm.incident:
 number: "{{ incident.record.number }}"
 state: in_progress
 other:
 problem_id: "{{ problem.record.sys_id }}"

Use case: Incident management

Change the state of the problem
Create a change request

- name: Assign problem for assessment
servicenow.itsm.problem:
 sys_id: "{{ problem.record.sys_id }}"
 state: assess
 assigned_to: problem.manager
- name: Create change request for resolving a problem
servicenow.itsm.change_request:
 state: new
 type: standard
 short_description: Demo change request
 template: Clear BGP sessions on a Cisco router - 1
 other:
 parent: "{{ problem.record.sys_id }}"
 register: change

Use case: Incident management

Mark the problem for root
cause analysis
Fix the problem

- name: Mark the problem for root cause analysis
servicenow.itsm.problem:
 number: "{{ problem.record.number }}"
 state: root_cause_analysis
 cause_notes: Document thoroughly!
 other:
 rfc: "{{ change.record.sys_id }}"
- name: Start fixing the problem
servicenow.itsm.problem:
 sys_id: "{{ problem.record.sys_id }}"
 state: fix_in_progress
 fix_notes: Detailed fix description here.

Use case: ServiceNow CMDB Inventory

Inventory configuration

Query parameter allows
for reusing of
ServiceNow filters and
operators just like in
modules

```
---
plugin: servicenow.itsm.now
query:
  -os: = Linux Red Hat
  -os: = Windows XP
keyed_groups:
  - key: os
    prefix: os
```

Example output

```
ansible-inventory -i inventory.now.yaml --graph
@all:
  |--@os_Linux_Red_Hat:
  |  |--FileServerFloor1
  |  |--FileServerFloor2
  |--@os_Windows_XP:
  |  |--DatabaseServer1
  |  |--DatabaseServer2
  ...
```

Use case: CMDB update

Add/update linux instance in CMDB

```
- name: Register instance in ServiceNow
servicenow.itsm.configuration_item:
  name: "{{ item.hostname }}"
  ip_address: "{{ item.default_ip }}"
  mac_address: "{{ item.default_mac }}"
  assigned_to: "{{ username }}"
  other:
    sys_class_name: cmdb_ci_ec2_instance
  loop: "{{ node_info }}"
  register: item
```

Ansible based mappings

```
- name: Retrieve all incidents
  servicenow.itsm.incident_info:
    incident_mapping:
      state:
        1: "new"
        2: "in_progress"
        3: "on_hold"
        4: "resolved"
        5: "closed"
        6: "canceled"
        7: "test"
    register: result
```

- ServiceNow choice lists can be updated for things like problem/incident/change request, etc.
- Choice lists contain things like incident state of: **New, Known Issue, Investigating, Closed** and are customizable
- As choice lists are modified in ServiceNow, mappings allow to keep Ansible in sync with customized choice lists
- Makes state transitions more predictable by using the value instead of the number ID

API and API_info Modules

- ServiceNow is highly customizable across many different tables including the ability to define new tables
- Modules for incident/problem/change request, etc., are only targeting one table
- API modules allow automation creators to target all other resources available in ServiceNow
- Allows for automated tasks outside what is covered by ITSM modules

```
- name: Find tag ID by name
servicenow.itsm.api_info:
  resource: label
  sysparm_query: name={{ tag_name }}
  columns:
    - name
    - sys_id
  register: tag_info

- name: Attach role to new user
servicenow.itsm.api:
  resource: sys_user_has_role
  action: post
  data:
    user: "{{ username }}"
    role: "{{ role }}"
  register: user_role
```

Event-Driven Ansible Rulebook

```
- name: New high priority incident
  conditions:
  actions:
    run_job_template:
      organization: Acme Corp
      name: New Incident Alert

- name: New VM catalog item approved
  condition:
  actions:
    run_job_template:
      organization: Acme Corp
      name: Provision VM
      job_args:
```


Additional resources

Blog: [Introducing the Ansible API for ServiceNow ITSM](#)

Blog: [Enabling modern IT service management actions for ServiceNow with Red Hat Ansible Automation Platform](#)

Blog: [Automating ServiceNow with Red Hat Ansible Automation Platform](#)

Blog: [Inside the newest features in the Red Hat Ansible Certified Content Collection for ServiceNow ITSM](#)

Overview: [Ansible Certified Content Collection for ServiceNow](#)

YouTube: [Automate ServiceNow ITSM](#)

Webinar: [Ansible certified Content Collection for ServiceNow](#)

Website: [Ansible Automation Platform: ServiceNow Integration](#)

Log in to
**download the
collection**

RED HAT ANSIBLE AUTOMATION PLATFORM
CERTIFIED INTEGRATION:
ServiceNow

REQUEST MORE INFO

**Automating IT Service Management with ServiceNow
and Red Hat Ansible Automation Platform**

Improve the value of your service chain based on ServiceNow as the "single source of truth" and Red Hat Ansible Automation Platform to programmatically manage problems and change requests. Streamline your IT Service Management (ITSM) operations through the Red Hat Ansible Certified Content Collection for ServiceNow that integrates Ansible

Ansible Certified Content Collection for ServiceNow

Streamline your IT Service Management (ITSM) operations

Red Hat Ansible Automation Platform

- Accelerate your service workflows
- Unite teams across your organization
- Complete repetitive tasks with speed and accuracy
- Optimize IT service availability

Maximize the value of your entire service chain

Automation is essential to the modern IT organization, but many companies lack the right tools to help them launch new automation projects efficiently and in less time.

Red Hat® Ansible® Automation Platform lets you automate a wide variety of IT processes through certified Content Collections that are tested, trusted, and reusable. Ansible Automation Platform offers more than 100 certified content collections that help you automate solutions across your ecosystem, including automation for key functions and even full processes.

Deliver an enhanced service and support experience

Red Hat Ansible Certified Content Collection for ServiceNow IT Service Management (ITSM) helps you create new automation workflows more quickly, based on ServiceNow ITSM, while establishing a single source of truth in the ServiceNow configuration management database (CMDB).

IT Organizations are moving to new Operating Models



Figure 1. IT organizations are adopting new operating models

...ner and stakeholder satisfaction,
... across the entire IT team.

Thank you

Red Hat is the world's leading provider of enterprise open source software solutions. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500.



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Automation solutions compared

Red Hat Ansible Automation Platform

- Certified integrations available from Automation Hub
- YAML workflow definitions, tracked in **source control** repository
- Flexible integrations extend core functionality
- **Comfortable development environment** for creating IT automation
- Trivial to leverage existing workflows for testing and improving automation
- Private Automation Hub, control of execution environments ensure stability of automation
- Monitoring and **tracking of automation**
- **Flexible deployment architectures** to support sensitive environments

ServiceNow Automation Engine

- RPA robots and external integrations available as spokes
- Drag and drop, low-code authoring **maintained in ServiceNow**
- Advanced scripting language required to extend third-party integrations (e.g. leveraging API not available as spoke)
- Familiar environment **only for ServiceNow admins**