TODAY’S AGENDA

- Getting more value from IT Service Management
- Red Hat Ansible Certified Content Collection for Service Now
- Use cases
- Demo and technical information
- Q & A

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IT Organizations are moving to new operating models

Enable Digital Enterprise

Increased Demand on IT

New Technologies

New IT Management Practices

DevOps and ITIL Combined

Provide end-to-end transparency and traceability

Streamline and automate IT activities

Feedback loop for continuous improvement

Make IT Flow

Management and automation
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 for ServiceNow solution

- Business Interface
- Change Management
- Incident Management
- Problem Management
- CMDB
- Technical Interface

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Targets
Customer implementations

Existing success stories with enterprise customers

**Insurance**
Initiate on demand self-service provisioning and patching

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

**Financial Services**
Gather facts, enrich and update CMDB information as changes occur through automation

**Government**
Implement faster and more consistent development, test and production processes with improved knowledge base information
Ansible for ServiceNow

Components

Source of truth and process orchestrator

**Ansible spoke v1.0.2** - Automate job scheduling, job templates, inventory and user management in Tower environment from the ServiceNow instance.

*Distributed through ServiceNow Store and included in the IntegrationHub ‘Standard’ package*

Infrastructure integration and task automation

**servicenow.itsm** - Certified Content Collection
- ServiceNow Modules
- ServiceNow CMDB Inventory Plugin

*Distributed through Automation Hub and included into the Ansible Automation Platform subscription*
Ansible for ServiceNow

Logical Architecture

Certified ServiceNow Collection

ServiceNow Spoke Plugin*

Inventory Plugin

ServiceNow Modules

Certified ServiceNow Collection

Targets

*Distributed through ServiceNow Store
Use case 1: ServiceNow change request

1) ServiceNow Spoke Plugin initiates Job Template

2) Ansible Inventory loaded from CMDB with inventory plugin

User creates a change request

Change Request → NOW Workflow → NOW CMDB

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

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

Targets

Ansible Inventory

Tower Job Templates

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Use Case 2: Job template reconciliation

1) A Change Request is open via ServiceNow Modules

2) Ansible Inventory loaded from CMDB with inventory plugin

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

4) Information on task results are loaded via ServiceNow Modules into the Change Request that is then closed
Demo and Technical
An unplanned outage or reduction in quality of an IT service or application

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.

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

PRE-FLIGHT CHECKS

Is the required subscription present?
Can we download and install ServiceNow Spoke Plugin?

- name: Install ServiceNow Spoke PlugIn
  hosts: ServiceNow
  collections:
    - servicenow.itsm
  tasks:
    - name: Check Subscription
      xxx:
        name: "xxx"
        type_name: "xxx"
        state: present
        description: "xxx"
        identifier: "xxx"
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 Custom Credential

**Input Configuration**

```json
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
```

**Injector Configuration**

```json
env:
  SN_HOST: '{{$ SN_HOST }}'
  SN_PASSWORD: '{{$ SN_PASSWORD }}'
  SN_USERNAME: '{{$ SN_USERNAME }}'
```
Use case: ServiceNow CMDB Inventory

**Inventory configuration**

```yaml
---
plugin: servicenow.itsm.now
columns:
- name
- environment
- sys_id
group_by:
environment:
sys_class_name:
os:
  includes:
    - Linux Red Hat
    - Windows Server
```

**Example output**

```
anible-inventory -i inventory.now.yaml --graph
@all:
  |--@Production:
  |  |--OWA-SD-1
  |  |--DatabaseServer1
  |  |--DatabaseServer2
  |--@Linux_Red_Hat:
  |  |--DatabaseServer1
  |  |--DatabaseServer2
  |  |--Linux100
  |  |--Linux101
  |--@Windows_Server:
  |  |--OWA-SD-1
  |  |--SAP LoadBal01
  |  |--SAP LoadBal02
...```

Pro-tip: create host variables from ServiceNow that you may need for other automation
Use case: CMDB update

Add or Update CMDB with Ansible Facts

- name: Add host to cmdb with ansible facts
  servicenow.itsm.configuration_item:
    name: "{{ ansible_hostname }}"
    mac_address: "{{ ansible_default_ipv4.macaddress }}"
    ip_address: "{{ ansible_default_ipv4.address }}"
    install_status: installed
    other:
      os_version: "{{ ansible_distribution_version }}"
      ram: "{{ ansible_memtotal_mb }}"
      cpu_count: "{{ ansible_processor_count }}"
      environment: "{{ env | default(omit) }}"
    sys_class_name: cmdb_ci_server
    sys_id: "{{ sys_id | default(omit) }}"

Pro-tip: use host variable from dynamic inventory to trigger update instead of add
Use case: Incident management

Something happened: Create an incident

```yaml
---
- hosts: "{{ HOSTS }}"
  connection: local
  gather_facts: false

  tasks:
    - name: open incident
      servicenow.itsm.incident:
        state: new
        urgency: medium
        impact: medium
        short_description: "Ansible Job {{ lookup('env', 'JOB_ID') }} Failed"
        other:
          cmdb_ci: "{{ inventory_hostname }}"
      register: incident
```

Pro-tip: add context to incident with information from Automation Platform
Use case: Problem management

Create a problem
Attach it to existing incident

- name: Create a problem
  servicenow.itsm.problem:
    short_description: Network 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

- 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: Network 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: Human error. Automate next time!
  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: Create new Ansible Playbook
Closed Loop Incident Response

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Incident → Problem → Change

Resolution

Reduce MTTR!
Q & A
Additional resources and next steps

- High level overview blog
- Technical how-to blog
- Download the collection
- Youtube Playlist
- Solution page on Ansible.com
Thank you

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