INTEGRATING ZABBIX WITH SERVICENOW

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WHY INTEGRATE WITH OTHER TOOLS?

In addition to Zabbix, many organizations use centralized ITSM systems. These can be populated with manual tasks, but they can also receive events from Zabbix.

- Automatically create events/incidents in your ITSM system
- Define assignees for your issues, task lists, SLA's, etc.
- Provide additional information about the issue
- Automatically resolve the issues in the ITSM system as soon as they are resolved in Zabbix
VAST SELECTION OF INTEGRATIONS

Ever since implementing Webhook media type, Zabbix development team has kept releasing new integrations for the most popular ITSM and messaging solutions.
PREPARING OUR ENVIRONMENT

Let's focus on one of these new webhook based media types and see how we can integrate Zabbix with ServiceNow in a few simple steps.

☐ We will be using the latest Zabbix 5.4 version
☐ ServiceNow webhook is supported starting from version 5.0
☐ If you're missing the media type due to upgrading from an older version, you're free to import it from the Zabbix official Git page

*https://git.zabbix.com/projects/ZBX/repos/zabbix/browse/templates/media/servicenow
SERVICENOW MEDIA TYPE

Most of our media types will always have fields that require additional input from our side

- Service user and service user password
- Authentication token
- Custom fields depending on each ITSM system such as custom severities, channel names, etc.

With ServiceNow we need to configure the service user and the user password.
We can also map severity levels to urgency levels
SERVICENOW MEDIA TYPE

We can also add custom fields and deliver custom information to our ServiceNow issue.

- We need to reference the custom field ID in ServiceNow
- The field ID should be our parameter name
- We can provide custom information by using built in macros, user macros and plain text
PROCESSING TAGS AND GENERATING MENU ENTRIES

☑️ In the media type we need to specify that we wish to process JSON values as tags
☑️ We also need to define which tags will be used for the menu entry URLs

- Process tags
- Include event menu entry

* Menu entry name | ServiceNow: {EVENT.TAGS.__zbx_servicenow_number}
* Menu entry URL  | {EVENT.TAGS.__zbx_servicenow_link}

Description

Enabled ✔️
**ADDING ADDITIONAL INFORMATION TO THE PROBLEM**

- By selecting "Process tags" in the Media type we will process the returned JSON values as additional tags with which we can populate the existing problem events.
- The list of processed values/tags is defined in the JS code of the webhook.

```javascript
if (process_tags) {
    result.tags.__zbx_servicenow_sys_id = response.sys_id;
    result.tags.__zbx_servicenow_link = params.servicenow_url +
        (params.servicenow_url.endsWith('/') ? '' : '/') + 'incident.do?sys_id=' +
        response.sys_id;
    result.tags.__zbx_servicenow_number = response.number;
}
```
We are interested in grabbing only task number and sys_id. They will be used to create a menu entry on the problem and generate a URL linking to the ServiceNow incident.
**PROCESSING TAGS AND GENERATING MENU ENTRIES**

- The resulting problem entry will contain menu links and tags populated from the JSON response.
CREATING A SERVICE USER

We also need to create a ServiceNow user in Zabbix and assign media with the ServiceNow URL to it.

Media

<table>
<thead>
<tr>
<th>Type</th>
<th>ServiceNow</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Send to</em></td>
<td><a href="https://dev83322.service-now.com/">https://dev83322.service-now.com/</a></td>
</tr>
<tr>
<td><em>When active</em></td>
<td>1-7,00:00-24:00</td>
</tr>
</tbody>
</table>

Use if severity:
- Not classified
- Information
- Warning
- Average
- High
- Disaster

Enabled: ✔
CREATING AN ACTION

When creating actions that will invoke our ServiceNow integration, we can utilize it for any type of operation:

☑ Send problem alerts
☑ Send recovery messages
☑ Update existing issues when the problem event gets updated
SNOW INTEGRATION - TESTING

- To test my ServiceNow integration I signed up for a ServiceNow development instance
- This grants me access to dev tools and the ServiceNow incident management
SNOw INTEGRATION – USER PERMISSIONS

The API user needs to have at least the following permissions:

- rest_api_explorer
- sn_incident_write
## SNOW INTEGRATION – ACTIVITIES

- The problem message gets displayed in the description field of the incident

<table>
<thead>
<tr>
<th>Configuration item</th>
<th>[RESOLVED] Device unreachable</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Short description</strong></td>
<td></td>
</tr>
</tbody>
</table>
| **Description** | Problem started at 12:23:38 on 2021.08.15  
Problem name: Device unreachable  
Host: Network device  
Severity: Average  
Operational data: 0  
Original problem ID: 29699 |
SNOW INTEGRATION – PROBLEM UPDATES

Subsequent problem updates and recovery messages get displayed in the Activity feed:

CU Creator User  Additional comments • 2021-08-15 09:26:54
Problem has been resolved in 25s at 12:26:49 on 2021.08.15
Problem name: Device unreachable
Host: Network device
Severity: High
Original problem ID: 29701

CU Creator User  Additional comments • 2021-08-15 09:26:48
Zabbix Administrator (Admin) acknowledged, commented and changed severity from Average to High problem at 2021.08.15 12:26:44.
Test ACK!
Current problem status is PROBLEM, acknowledged: Yes.
SNOW INTEGRATION – ADDITIONAL INFORMATION

- To add some additional information and make your integration more robust, we can utilize built-in and user macros.
- In this example I will update my message template with a problem event URL.
- I will use built-in and user macros to achieve this.

Create a **{$ZABBIX.URL}** global user macro.

<table>
<thead>
<tr>
<th>Macro</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>{$SNMP_COMMUNITY}</td>
<td>public</td>
</tr>
<tr>
<td>{$ZABBIX.URL}</td>
<td><a href="http://192.168.1.79/zabbix/">http://192.168.1.79/zabbix/</a></td>
</tr>
</tbody>
</table>
Combine \texttt{\$ZABBIX.URL} user macro with built in macros – \texttt{\{TRIGGER.ID\}} and \texttt{\{EVENT.ID\}}
This way our incident in SNOW will now contain a direct URL redirecting us to the event:

```
incident URL: http://192.168.1.79/zabbix/tr_events.php?triggerid=19472&eventid=29732
```
SNOW INTEGRATION – TROUBLESHOOTING

- As with all other media types, make sure that you have created a ServiceNow user and assigned a ServiceNow media to it.

- Make sure that the Media contains a proper service now URL.
SNOW INTEGRATION – TROUBLESHOOTING

- Make sure that your `servicenow_user` and `servicenow_password` parameters are defined correctly in the media type

- Make sure that the ServiceNow user has proper API permissions
SNOW INTEGRATION – NOTES

- The integration is one-way, meaning changes performed in Zabbix will be reflected in ServiceNow, but not the other way around.
- When performing additional customizations – adding new fields, changing user roles, etc., make sure that you are referring to the correct version of the ServiceNow documentation.
- Keep an eye out on the Zabbix release notes. The Media types may get updated and change from time to time.
QUESTIONS?

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THANK YOU!

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