

ZABBIXSNOW

From Monitoring to Incidents

16th September 2017
Riga , Latvia



INTRODUCTION

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WHO ARE WE ?

/ Morten Moesgaard
/ Certified Zabbix Specialist



/ Michael Andersen
/ ServiceNow Specialist



TV 2 DENMARK

- / TV Station**
- / Established 1988**
- / 5 TV Channels**
- / Online streaming and VOD service**
- / Funded by commercials and subscription services**

ZABBIX SPECS

- / 1 Zabbix Server
- / 3 Zabbix Proxy
- / 600+ Mixed Virtual , physical, Synthetic hosts
- / 400+ items per sec
- / 15000+ Active triggers



SERVICES

- / Webservers
- / Web Caches
- / Video Encoders
- / External services
- / Rancher (micro services)
- / Databases
- / And much more ..



ZABBIXSNOW

Zabbix & ServiceNOW

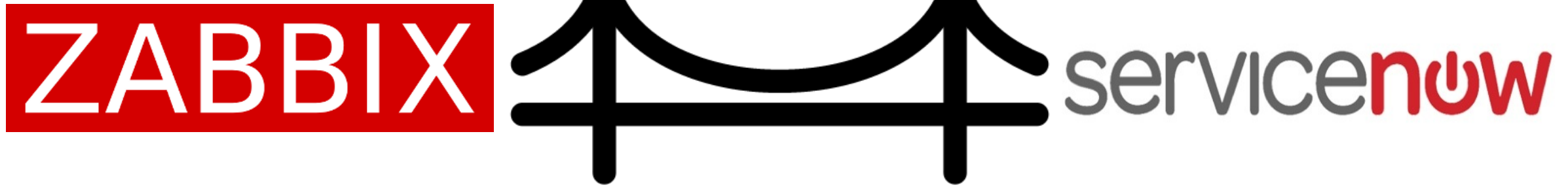
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ZABBIXSNOW IN SHORT:

What is ZabbixSnow ?

- / Inhouse script developed by Morten Moesgaard
- / Bridge between Zabbix And ServiceNow
 - / Reacts on Actions from Zabbix
 - / Creates incidents in ServiceNow
 - / Syncs hosts and triggers periodically (Zabbix to ServiceNow)



ZABBIXSNOW:

Who is in control?

The ZABBIX logo consists of the word "ZABBIX" in a bold, white, sans-serif font, centered within a solid red rectangular background.

ZABBIXSNOW:

/ Zabbix detects problems



ZABBIXSNOW:

/ ServiceNow handles the communication and Incidents

service**now**

BENEFITS

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Identification

Number	INC0040187
Contact type	System Generated
* Caller	OC Integrations    
User ID	s-oc-integrations
Email	operationscenter@tv2.dk

Process

State	Assigned	
Assignment group	Operations center	 
Assigned to		
Downtime start	09-04-2017 11:57:41	

Categorisation

* Category	TV 2 PLAY
Subcategory	Diverse
Affected CI	CPU usage on container 'flex_master_1' on host ^ 🔍 📄 ⓘ ⓘ
TV2 Nummer	
Issue type	-- None --

Prioritisation

Impact	2 - Medium
Urgency	1 - High
Priority	2 - High
Watch list	☐ ☐

Incident Description

Short description

CPU usage on container 'flex_master_1' on host 'flex-live-master1' is too high

Description

- +

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Cpu load is high.
please follow runbook

SERVICENOW

- / Adding value***
- / Reporting***
- / Collaboration***

ZABBIX

- / Incentive for fine-tuning of triggers
- / Templates make incidents more consistent
 - / Relevant consistent info via trigger description
 - / Runbooks via URL field
 - / Trigger name is descriptive
- / No more guesstimating downtime

SUMMARY

- / Non-technical people get info in a non-technical way
- / Better reports based on info given by Zabbix
- / Better pinpointing of reoccurring problems
- / Better knowledge sharing (runbooks)
- / Relevant triggers create incidents

WHAT DID WE DO?

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ZABBIX

- / Action
- / Based on
 - / Host Group
 - / Trigger severity
- / Curl command to ZabbixSNOW

ZABBIXSNOW

- / Problem state
 - / ZabbixSnow evaluates
 - / Collects info from Zabbix
 - / Collects info from ServiceNOW
 - / Compares info
 - / Creates incident / updates incident
 - / Sets downtime start (on newly created incidents only)

ZABBIXSNOW

/ OK

- / ZabbixSnow evaluates
 - / Information from Zabbix
 - / Information from ServiceNOW
 - / Adds comment / info
 - / Sets downtime end
- / No database to keep track of states

THE TECHNICAL PART

Aka the how

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```

private $Tval = '';
private $Ack = '';
private $AckHist = '';
function __construct()
{
    global $SnowApi,$ZabbixApi,$Convert,$Groupids,$typerel,$Snowtablehost,$Snowtabletrigger,$Snowtablecirel;
    $this->Sapi = $SnowApi;
    $this->Zapi = $ZabbixApi;
    $this->Tid = $_GET['tid'];
    $this->Eid = $_GET['eid'];
    $this->Tval = $_GET['tval'];
    $this->Ack = $_GET['ack'];
    $this->AckHist = $_POST['hist'];
    $method = 'host.get';
    $params = array('output' => ['hostid'],'proxy_hosts' => 1);
    $addons = '';
    $this->zProxy = $this->Zapi->get_zabbix_req($method,$params,$addons);
    $method = 'host.get';
    $params = array('output' => 'extend','triggerids' => $this->Tid);
    $addons = '';
    $this->zHost = $this->Zapi->get_zabbix_req($method,$params,$addons);
    //We fetch Info from ServiceNow so we can identify the trigger
    $this->Info = $this->Sapi->snow_action('&sysparm_query=u_zbx_triggerid='.$this->Tid.'',$Snowtabletrigger,'');
    //check for if proxy has an incident or this is a proxy
    if($this->isproxy($this->Hid) == true){
        $this->case_proxy_exists();
    }else{
        //if no proxy case we add +1 to our shared memory
        $shm_id = shmop_open(0xdeadf,'c',777, 1024);
        $shm_data = shmop_read($shm_id, 0, 8);
        if($shm_data <= 59 ){
            if (empty($shm_data)) {
                $shm_bytes_written = shmop_write($shm_id, 0, 1);
            } else {
                $shm_bytes_written = shmop_write($shm_id, (int)$shm_data+1, 0);
            }
        }else{
            // if we exceed 60 we simple just return OK to zabbix
            shmop_close($shm_id);
            die("ok");
        }
        shmop_close($shm_id);
        //if we came thru the loop we go to incident creation
        $this->createIncident();
    }
}

```

```

function isproxy($proxy){
    foreach($this->zProxy->result as $key => $value){
        if($value->hostid == $proxy){
            return true;
        }
    }
    return false;
}
function case_proxy_exists(){

```

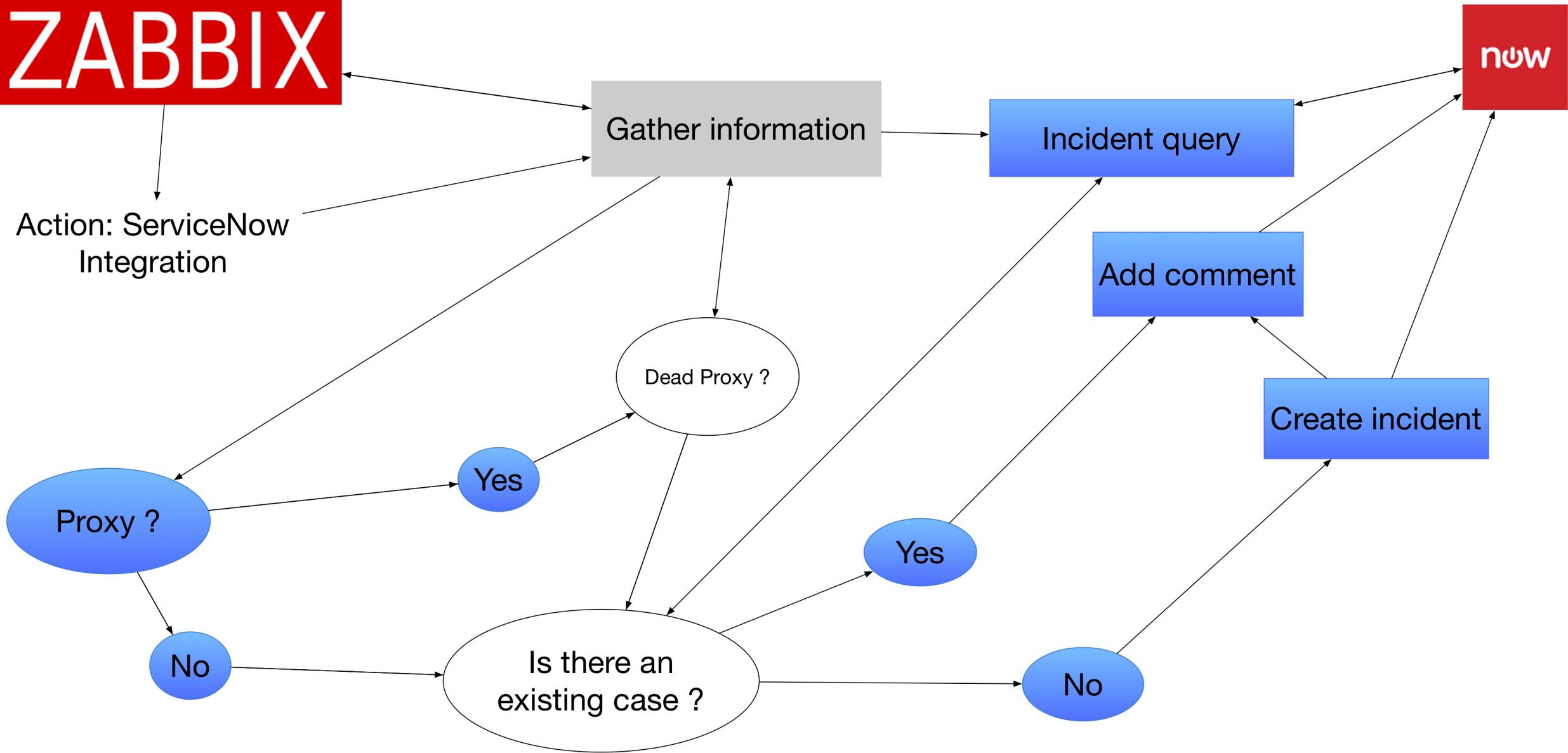
ZABBIXSNOW

/ Problem.php

- / Everytime the Zabbix Action run Problem parameter
 - / Collects info from Zabbix and ServiceNow
 - / Evaluates if it is a failed proxy trigger
 - / Evaluates if our limiter has gotten more than 60 triggers
 - / Denies when limiter is 60 (resets every 60 seconds)
 - / Creates incident in service now when no incident is active
 - / Adds comment on existing incidents

ZABBIX

Action: ServiceNow
Integration



ZABBIXSNOW

/ OK.php

- / Everytime the Zabbix Action run OK parameter
 - / Collects info from Zabbix and ServiceNow
 - / Evaluates if it is a failed proxy trigger
 - / Adds OK comment on existing incidents
 - / Adds Downtime End

ZABBIXSNOW

- / Addhosts.php
- / Run by CRON every 1 hour
 - / Zabbix host to ServiceNow sync
 - / Zabbix trigger to ServiceNow sync
 - / New hosts added
 - / New trigger added

ZABBIXSNOW

- / Addhosts.php
- / Run by CRON every 24 hour
 - / Full sync
- / Syncing
 - / Zabbix triggers are connected to individual host
 - / Triggers are identified in ServiceNow
 - / Find if Relation is there
 - / Prepare relations
 - / Reset all Hosts and triggers
 - / Insert active Hosts and triggers and set “True” in active in zabbix else set false
 - / Set relations between host and triggers in ServiceNow

ANY QUESTIONS??

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