

# Monitoring using SNMP

## Introduction

The ability to monitor the gateway in real time is a key feature for any organization that manages a power system telecontrol network. This feature is part of the supervision and incident management system.

Simple Network Management Protocol (SNMP) is an application-layer protocol defined by the Internet Architecture Board (IAB) in RFC1157 for exchanging management information between network devices.

SNMP is one of the widely accepted network protocols to manage and monitor network elements. Most of the professional-grade network elements come with bundled SNMP agent. These agents have to be enabled and configured to communicate with the network monitoring tools or network management system (NMS).

## Quick introduction to SNMP

In typical uses of SNMP, one or more administrative computers called *managers* have the task of monitoring or managing a group of hosts or devices on a [computer network](#). Each managed system executes a software component called an *agent* which reports information via SNMP to the manager.

An SNMP-managed network consists of three key components:

- Managed devices
- Agent – software which runs on managed devices
- Network management station (NMS) – software which runs on the manager

A *managed device* is a network node that implements an SNMP interface that allows unidirectional (read-only) or bidirectional (read and write) access to node-specific information. Managed devices exchange node-specific information with the NMSs. Sometimes called network elements, the managed devices can be any type of device, including, but not limited to, routers, access servers, switches, cable modems, bridges, hubs, IP telephones, IP video cameras, computer hosts, and printers.

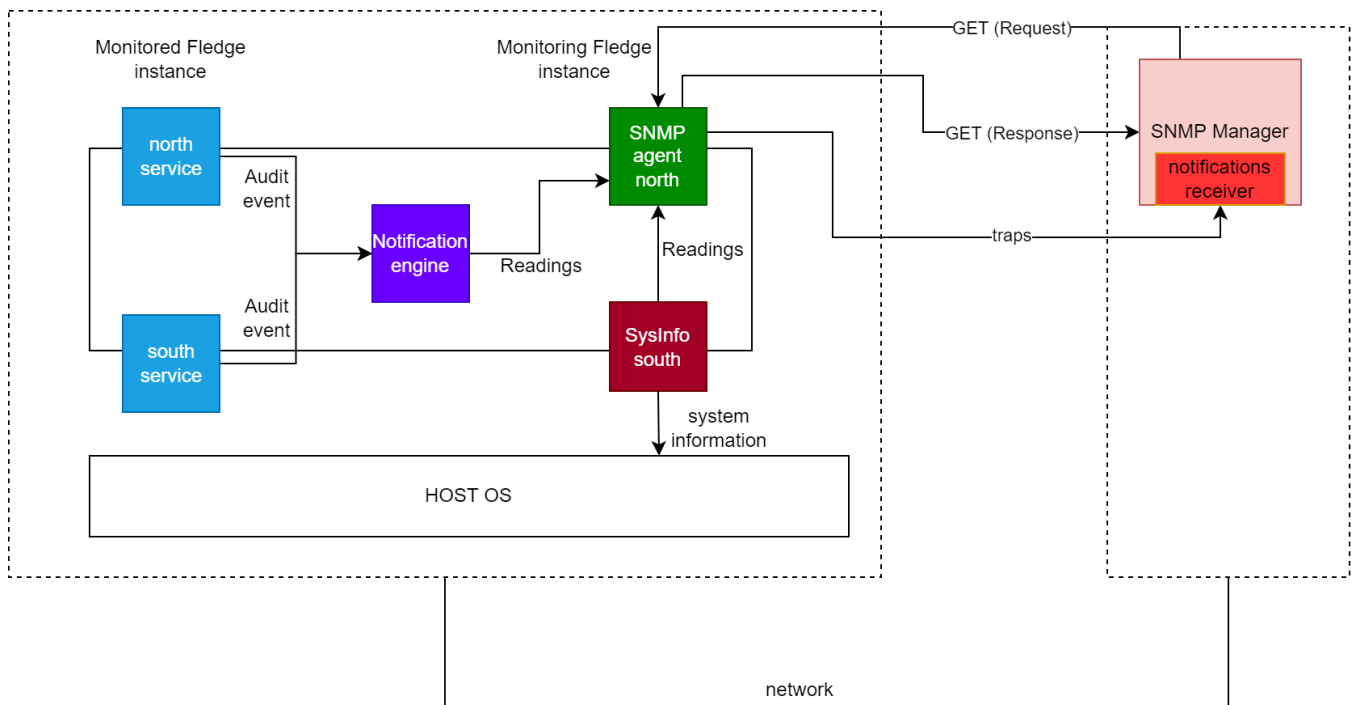
An *agent* is a network-management software module that resides on a managed device. An agent has local knowledge of management information and translates that information to or from an SNMP-specific form.

A *network management station* executes applications that monitor and control managed devices. NMSs provide the bulk of the processing and memory resources required for network management. One or more NMSs may exist on any managed network.

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source: [Simple Network Management Protocol - Wikipedia](#)

## Architecture



## Data collection and sending process using Fledge

The monitoring is based on the 2 following plugins:

**Sysinfo plugin** which task is to collect information about the system it is running.

This plugin is already available in the Fledge's [repo](#).

**SNMP agent north plugin** which task to convert the collected data stream to SNMP notifications (traps or informs) and send them to the remote SNMP manager (server.)

This plugin needs to be developed.