https://alertflex.org

Alertflex is a continuous security monitoring solution designed for use in Hybrid Clouds. By monitoring security events from well-known open source applications near real-time, Alertflex helps to detect cyber intrusions and vulnerabilites, gives companies end-to-end security visibility.

Alerts filtering, prioritization and visualization

Detection intrusions and vulnerabilities

Integrated analysis network, containers and hosts

Incident response

Services orchestration

Tasks automation

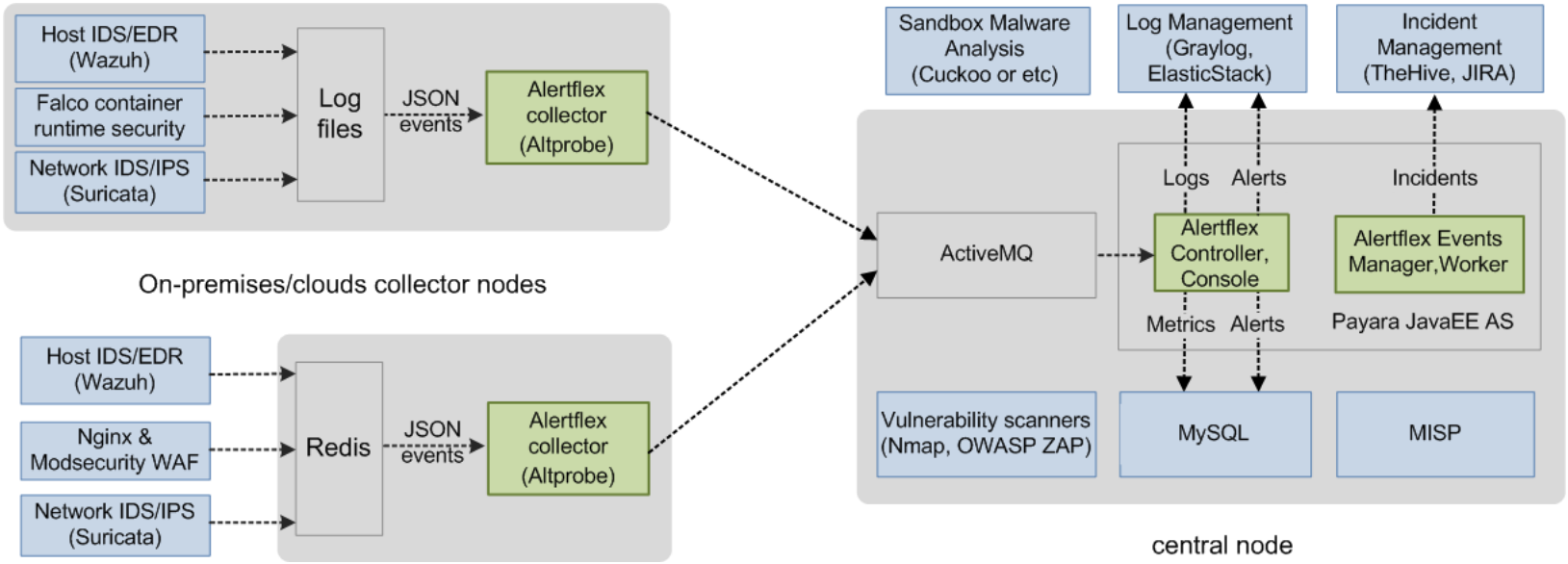
Advantages of Alertflex

Alertflex distributed architecture is optimally suited for use in Hybrid Clouds (public/private clouds, IoT edge, on-premises). Alertflex data model supports multi-tenancy and micro-segmentation.

Alertflex has both capabilities SIEM and SOAR products. The solution includes own security event management system, deeply integrated with sources of security events - Wazuh HIDS, Suricata NIDS, Modsecurity WAF and Falco Container IDS.

For security events exchanges, Alertflex uses ActiveMQ which is PCI and SOC compliance. ActiveMQ is an official message broker for Amazon AWS services and RedHat OpenShift platform.

Solution architecture



Versions of solution

COMMUNITY EDITION (GitHub)	PROFESSIONAL EDITION
Open source components (Apache License 2.0): Alertflex controller Alertflex collector Alertflex console	Licensed/proprietary components: Alertflex event manager Alertflex worker
• Centralized management for security sensors (Suricata, Wazuh, Falco, Modsecurity) • CTI, based on integration with MISP. • Supplying alerts and metrics to Graylog, ElasticStack, Prometheus. • REST API and STIX-shifter adapter for security alerts.	Security Events Manager (SEM) and SOAR

Alertflex collector (Altprobe)

Altprobe was designed special for manage of security sensors and provide two-way communication:

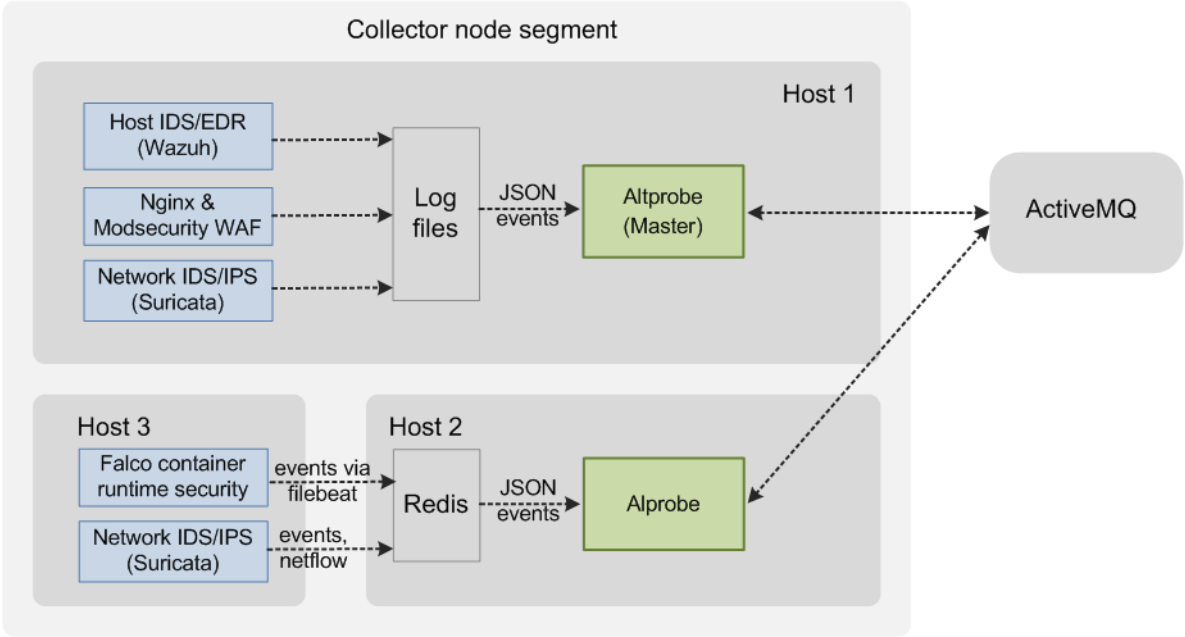
From IDS sensor to Altprobe

- Security events
- Backup of IDS rules and configs
- Inventory events

From Altprobe to IDS sensors

- Update IDS rules and configs
- Active response for Wazuh
- Create agents for Wazuh

Altprobe performs normalization, aggregation and apply filtering policy for IDS security events

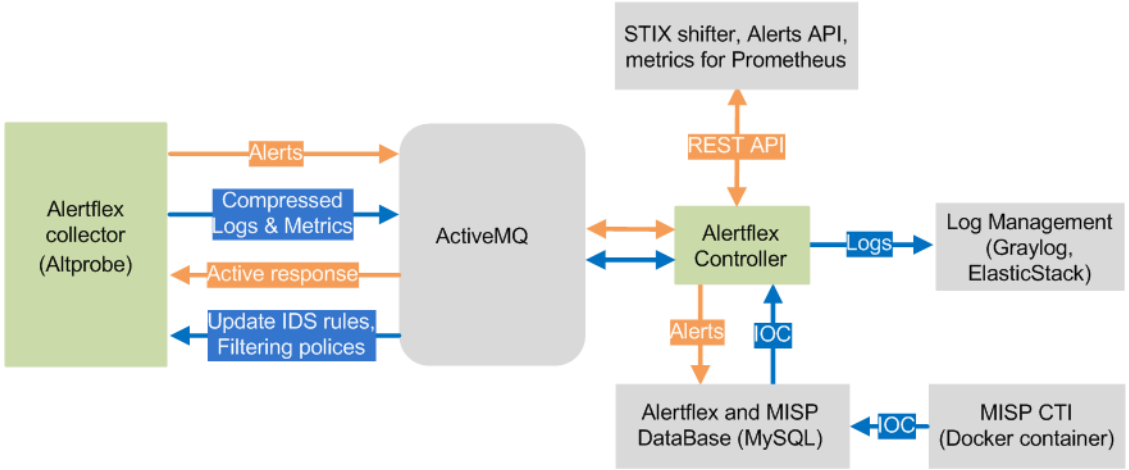


Example filtering policy:

```
"hids": {
        "gray_list": [{
                "event": "5715",
                "agent": "flghost",
                "match": "indef",
                "aggregate": {
                        "reproduced": 0,
                        "in_period": 0
                },
                "response": {
                        "profile": "indef",
                        "new_type": "indef",
                        "new_source": "indef",
                        "new_event": "55715",
                        "new_severity": 1,
                        "new_category": "new cat",
                        "new_description": "new desc"
                }
        ]}
}
```

Alertflex controller

•Saves IDS alerts in Alertflex database (MySQL)
•Can redirect alerts to Graylog, ElasticStack, OpenDistro log management platforms
•Provides a REST API for alerts, STIX shifter, metrics for Prometheus
•Performs a reputation checks for IP addresses, DNS records, MD5 and SHA1 hashes of files. Creates an alert, in case of suspicious data has been found.
•Performs analysis of different reports (OpenSCAP, Wazuh SCA, etc). Creates an alert if a new vulnerability, misconfigurations, processes or packages has been found.



Example STIX shifter request for Wazuh FIM alerts:

[alert:type = 'FILE']


```
"objects": {
            "0": {
              "type": "file",
              "hashes": {
                "SHA-1": "d7ec10f7a229c13b49257e3d9227b73537f40090",
                "MD5": "423999f949bbd9116df704876620d5ab"
              }
            },
            "1": {
              "type": "file",
              "name": "/etc/alertflex/test01/master-hids/remrules/0030-postfix_rules.xml"
            }
          },
          "x_org_alertflex": {
            "severity": 2,
            "agent": "flghost",
            "description": "Integrity checksum changed.",
            "source": "Wazuh",
            "type": "FILE",
            "node": "test01",
            "event": "550",
            "category": "ossec, syscheck, pci_dss_11.5, hipaa_164.312.c.1, hipaa_164.312.c.2, gdpr_II_5.1.f, nist_800_53_SI.7",
```

Example STIX shifter request for Suricata IDS alerts:

[alert:severity = 3 AND alert:source = 'Suricata']


```
"0": {
            "type": "ipv4-addr",
            "value": "192.168.1.2"
          },
          "1": {
            "type": "network-traffic",
            "src_ref": "0",
            "dst_port": 9000,
            "protocols": [
              "ip"
            ],
            "src_port": 41872,
            "dst_ref": "2"
          },
          "2": {
            "type": "ipv4-addr",
            "value": "192.168.1.24"
          }
        },
        "x_org_alertflex": {
          "severity": 3,
          "description": "ET POLICY Outgoing Basic Auth Base64 HTTP Password detected unencrypted"
```

Use case
Open source SIEM

Advantages:

• All alerts are normalized and prioritized, therefore it is easy to do Root cause analysis (RCA)
• Can transmit all IDS events to ElasticStack and Graylog.
• Alerts statistics can be caught by Prometheus as metrics via REST.
• Close to Real-time a CTI functionality via direct JDBC connection to MISP. Performs IOC checks for Suricata NetFlow records and Wazuh FIM events (MD5, SHA1, SHA256). Also can perform periodic IOC search in ElasticStack and Graylog for Netflow records from Filebeat and Packetbeat