Configure Rate-Based Attack Prevention with Snort 3 Rate Filter on Secure FTD

Issue

The focus is on how to structure rules to cover multiple subnets, understanding best practices for implementation, an

Environment

- Cisco Secure Firewall Firepower running FTD 7.4.2.4
- Firepower 2110 hardware platform
- Managed by Firepower Management Center (FMC) 7.6.2.1
- Snort 3 Intrusion Prevention System with rate_filter inspector enabled
- Multiple internal subnets requiring protection from SYN floods
- No active faults present; configuration guidance for proactive defense

Resolution

These steps detail how to configure and implement rate-based attack prevention using the Snort 3 **rate_filter** inspector on Cisco Secure Firewall FTD, including an explanation of rule structure for multiple subnets and best-practice recommendations. These actions are intended to help establish baselines for normal traffic and to enable eff

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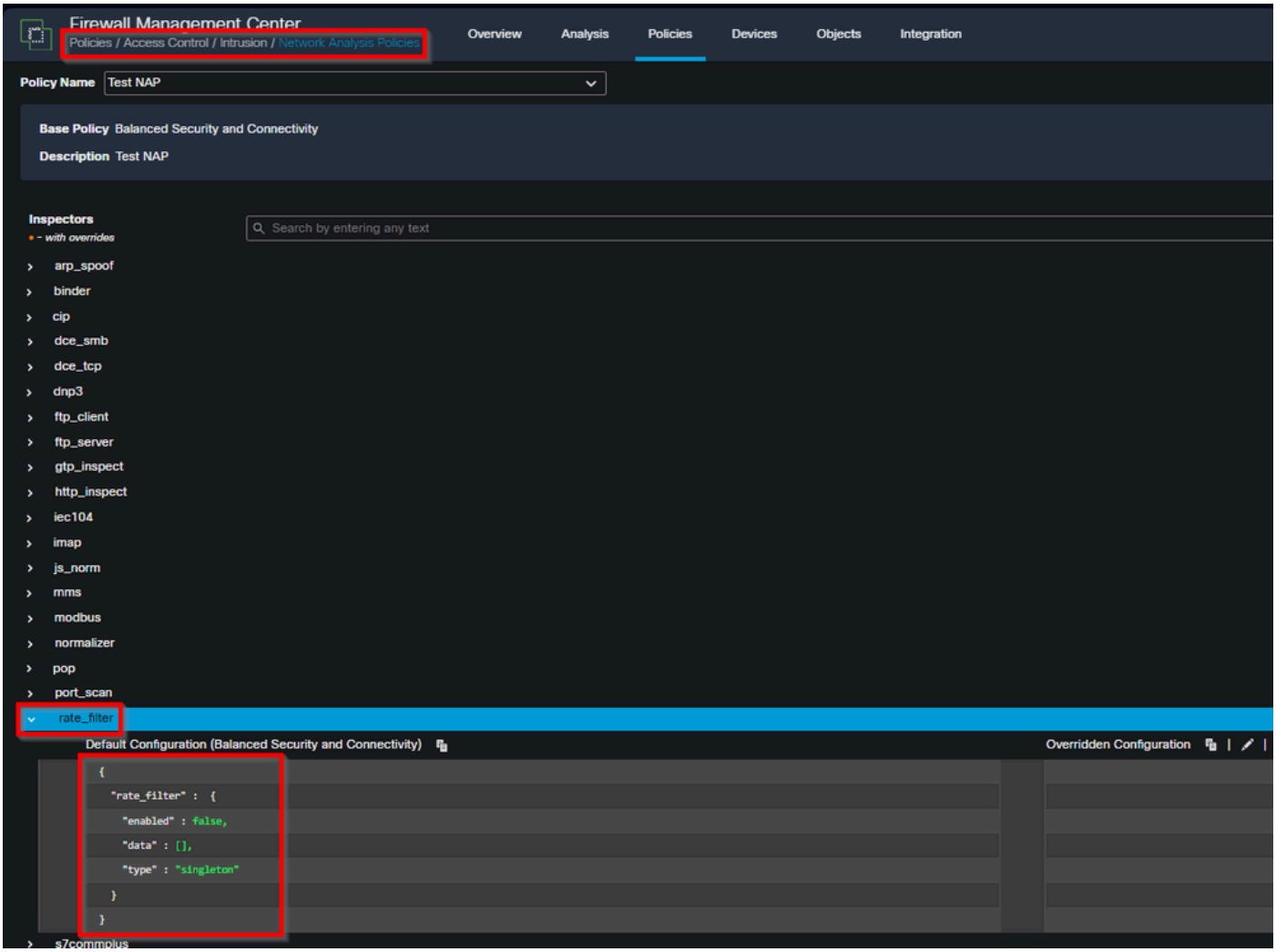
Note:
It is not within the TAC work scope to suggest or recommend any specific values for these rule filters. Each depth analysis of traffic patterns and network design to determine the best values for these filters.

1: Navigate to the Snort 3 rate_filter

These filters are configured under **Policies > Access Control: Intrusion > Network Analysis Policies** by clicking o down from the left panel.



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2: Understand the Snort 3 Rate Filter Rule Structure

The **rate_filter** inspector in Snort 3 allows you to define rules that monitor specific types of traffic (such as SYN pac

Example **rate_filter** configuration for multiple subnets:

```
{
  "rate_filter": {
    "data": [
      {
        "apply_to": ["10.1.2.0/24", "10.1.3.0/24"],
        "count": 5,
        "gid": 135,
        "sid": 1,
        "new_action": "alert",
        "seconds": 10,
        "timeout": 15,
        "track": "by_src"
      }
    ],
    "enabled": true,
    "type": "singleton"
```

```
  }
}
```

Explanation of parameters:

- **apply_to**: List of IP addresses or subnets to which the filter applies (supports multiple subnets).
- **count** + **seconds**: Threshold for event (for example, 5 SYN packets within 10 seconds).
- **gid** / **sid**: Identifies the Snort event (such ss GID 135, SID 1 for SYN flood detection).
- **new_action**: Action to take when threshold is exceeded (for example, *alert*, *drop*).
- **timeout**: Duration before a new alert/action is triggered for the same condition.
- **track**: Tracking mode (for example, *by_src* for per-source IP, *by_dst* for per-destination IP).

3: Best Practices for Threshold Tuning and Policy Deployment

- **Begin in alert mode:** Set *new_action* to **alert** and use conservative thresholds (such as higher *count* and *secor*
- **Baseline network traffic:** Monitor generated events to understand what "normal" SYN rates look like for you
- **Iteratively tune parameters:** Adjust *count*, *seconds*, and *timeout* based on observed traffic patterns and opera
- **Move to blocking:** Once confident that thresholds accurately reflect abnormal behavior, change *new_action* from **alert** to **drop** or equivalent to actively block attacks.
- **Separate filters as needed:** Consider different rate limits for different segments or roles (for example, servers
- **Continuous monitoring:** Maintain alerting and monitoring on rate_filter events to quickly identify tuning issu

Cause

None. The configuration was requested for proactive security and as guidance due to a prior SYN flood incident.

Related Content

- Snort 3 Inspector Reference: Rate Filter
- Cisco Secure Firewall Management Center Device Configuration Guide, 7.4: Rate-Based Attack Prevention
- Cisco Technical Support & Downloads