

I2NSF Network Security Functions Facing Interface YANG Data Model

(draft-kim-i2nsf-nsf-facing-interface-data-model-00)

@IETF-97 I2NSF WG

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The background of the slide features a perspective view of a city skyline with various skyscrapers. The foreground is a light-colored floor with a grid pattern of thin lines that recedes into the distance. In the upper left portion of the sky, a jet airplane is shown in flight, leaving a white contrail. The sky is a pale blue with a few wispy white clouds. The word "Introduction" is centered in the middle of the image in a dark blue, serif font.

Introduction

Introduction

1. This draft defines a YANG data model corresponding to the information model for Interface to Network Security Functions (I2NSF) NSF facing interface.
2. This draft is an updated version from draft-jeong-i2nsf-capability-interface-yang-03.
 - <https://datatracker.ietf.org/doc/draft-jeong-i2nsf-capability-interface-yang/>
3. We refer to draft-xia-i2nsf-capability-interface-im06.
4. It describes a data model for network security functions facing interface.



Network Security
Control

Content Security
Control

Attack Mitigation
Control

The background of the slide features a perspective view of a city skyline with various skyscrapers. In the foreground, there is a white grid pattern that recedes into the distance. The sky is light blue with a few white clouds. A small jet airplane is flying in the upper left quadrant, leaving a white contrail.

Updates of New Version

Updates of New Version (1/3)

1. Advanced Action

- In previous version, we can check only one additional advanced NSF when using the choice statement.
- We revised advanced action, and used container statement instead of choice statement.
- As a result, we can check multiple NSFs instead of only one.

```
+--rw (content-security-control-type)?  
+---: (antivirus)  
|   +--rw antivirus?  boolean  
+---: (ips)  
|   +--rw ips?  boolean  
+---: (url-filtering)  
|   +--rw url-filtering?  boolean  
+---: (file-blocking)  
|   +--rw file-blocking?  boolean
```

```
+--rw content-security-control-types  
+--rw antivirus  
|   +--rw antivirus-insp?  boolean  
+--rw ips  
|   +--rw ips-insp?  boolean  
+--rw ids  
|   +--rw ids-insp?  boolean  
+--rw url-filtering
```

Updates of New Version (2/3)

2. Additional NSFs

- With reference to Susan's draft, we added more NSFs, which originally were not included in our draft, in Content Security Control such as **IDS, mail filter, file blocking, file isolate, and packet capture.**

Updates of New Version (3/3)

3. Other NSF Configuration

- The previous version can configure only Network Security Control, but this version has been modified so that other NSFs can be configured. (Note that this version is only written for VoIP-VoLTE.)

```
module : ietf-ietf-nsf-facing-interface
+--rw cfg-network-security-control
|   +--rw policy
|       +--rw policy-name string
|       +--rw policy-id string
|       +--rw rule* [rule-id]
|           +--rw rule-name string
|           +--rw rule-id uint 8
|           +--rw event
|               ....
|           +--rw condition
|               ....
|           +--rw action
|               ....
+--rw cfg-content-security-control
+--rw (cfg-content-security-control-type)?
+--rw cfg-attack-mitigation-control
+--rw (cfg-attack-mitigation-control-type)?
+--:: (cfg-ddos-attack)
```

```
+--:: (cfg-voip-volte)
+--rw voip-volte-rule* [rule-id]
+--rw rule-id uint 8
+--rw event
|   +--rw called-voip boolean
|   +--rw called-volte boolean
+--rw condition
|   +--rw sip-header* [sip-header-uri]
|       | +--rw sip-header-uri string
|       | +--rw sip-header-method string
|       | +--rw expire-time yang:date-and-time
|       | +--rw sip-header-user-agent uint32
|   +--rw cell-region?* [cell-id-region]
|       +--rw cell-id-region uint 32
+--rw action
+--rw (action-type)?
+--:: (ingress-action)
|   +--rw (ingress-action-type)?
|       +--:: (permit)
|       | +--rw permit boolean
|       +--:: (deny)
|       | +--rw deny boolean
|       +--:: (mirror)
|       | +--rw mirror boolean
+--:: (egress-action)
+--:: (egress-action-type)?
+--:: (redirection)
+--rw redirection? boolean
```


The image features a wide-angle, low-perspective view of a city skyline. The foreground is dominated by a light-colored floor with a grid pattern of thin, dark lines that recede into the distance. The city skyline, composed of numerous skyscrapers of varying heights and styles, stretches across the horizon. The sky is a pale, clear blue with a few wispy white clouds. In the upper left quadrant, a small jet airplane is shown in flight, leaving a long, thin white contrail that extends towards the center of the frame. The overall composition is clean and modern, suggesting a sense of progress and forward movement.

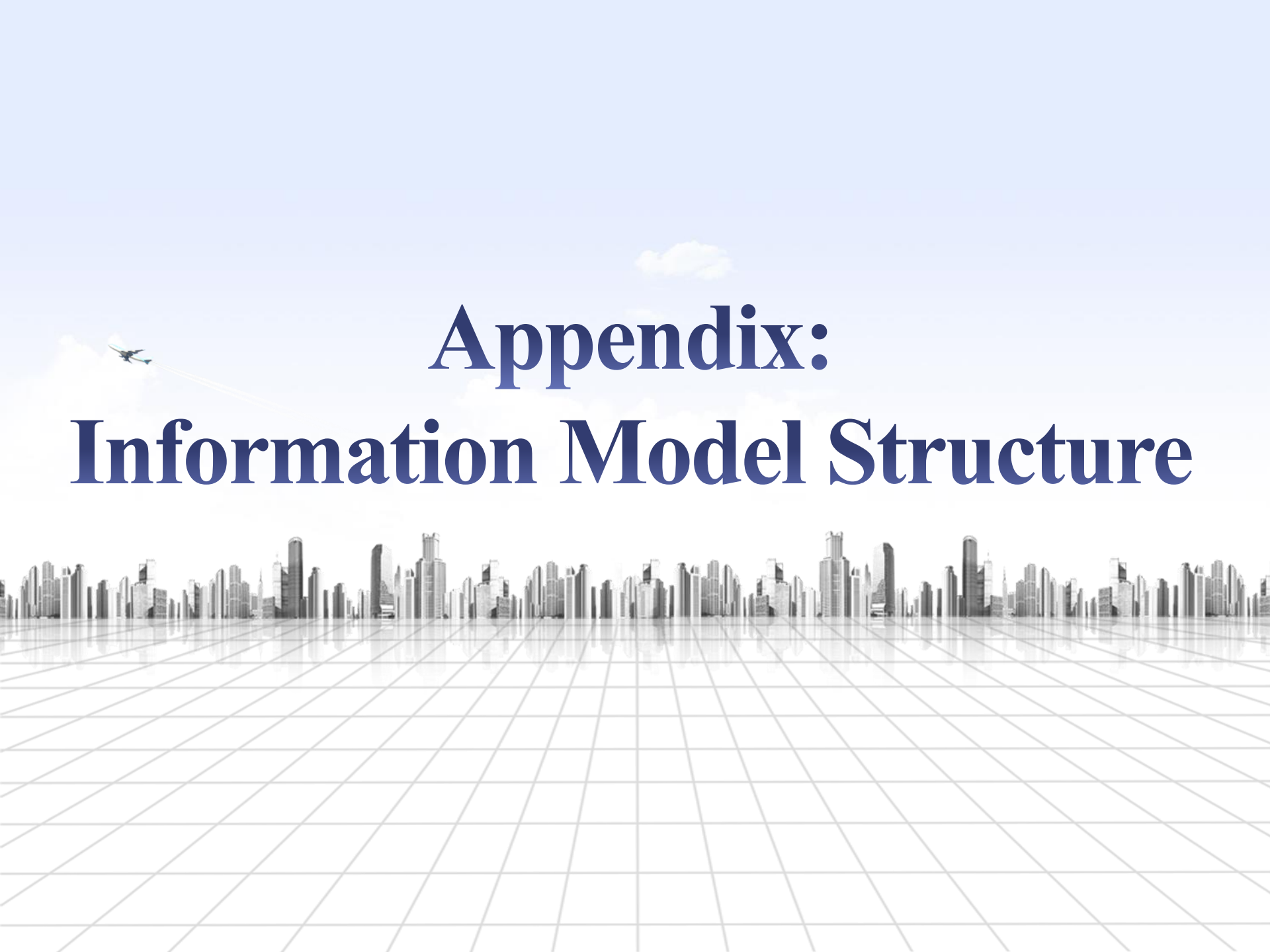
Next Steps

Next Steps

- ❖ **Usage of Grouping Feature in YANG**
 - Future data models will be made using grouping feature for easier viewing.
- ❖ **Support of the Other NSFs**
 - We will also add more specific data models for other NSFs.

The background features a 3D-rendered city skyline with various skyscrapers of different heights and styles. The buildings are positioned on a large, light-colored grid floor that recedes into the distance, creating a sense of depth. The sky is a clear, light blue with a few wispy white clouds. In the upper left quadrant, a small airplane is shown in flight, leaving a long, thin white contrail that extends across the sky.

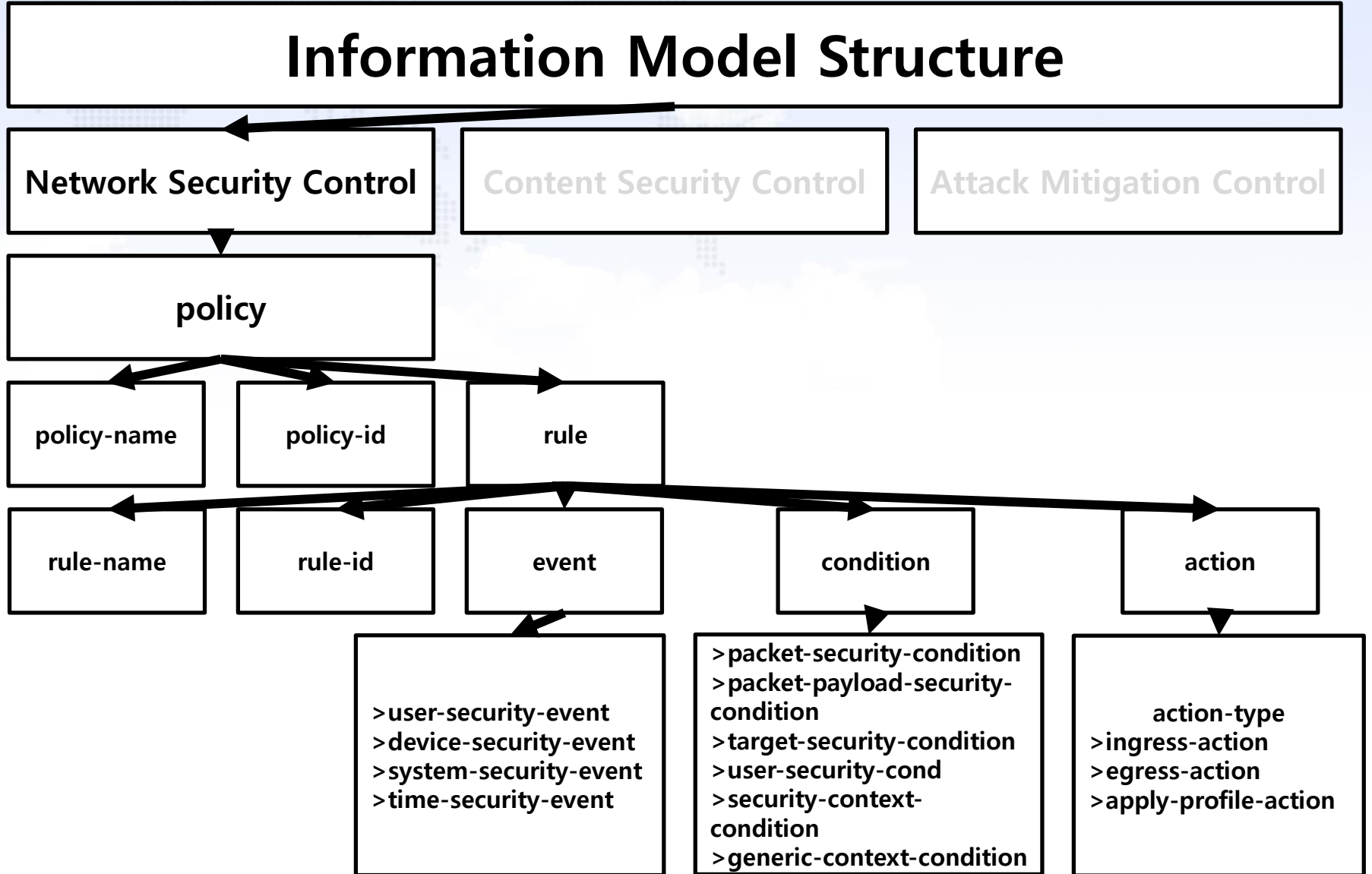
Thank you!
Any question?

The background of the slide features a perspective view of a city skyline with various skyscrapers. In the foreground, there is a grid of light gray lines on a white surface, creating a sense of depth. In the upper left, a small jet airplane is flying, leaving a white contrail. The sky is a clear, light blue with a few wispy white clouds.

Appendix: Information Model Structure

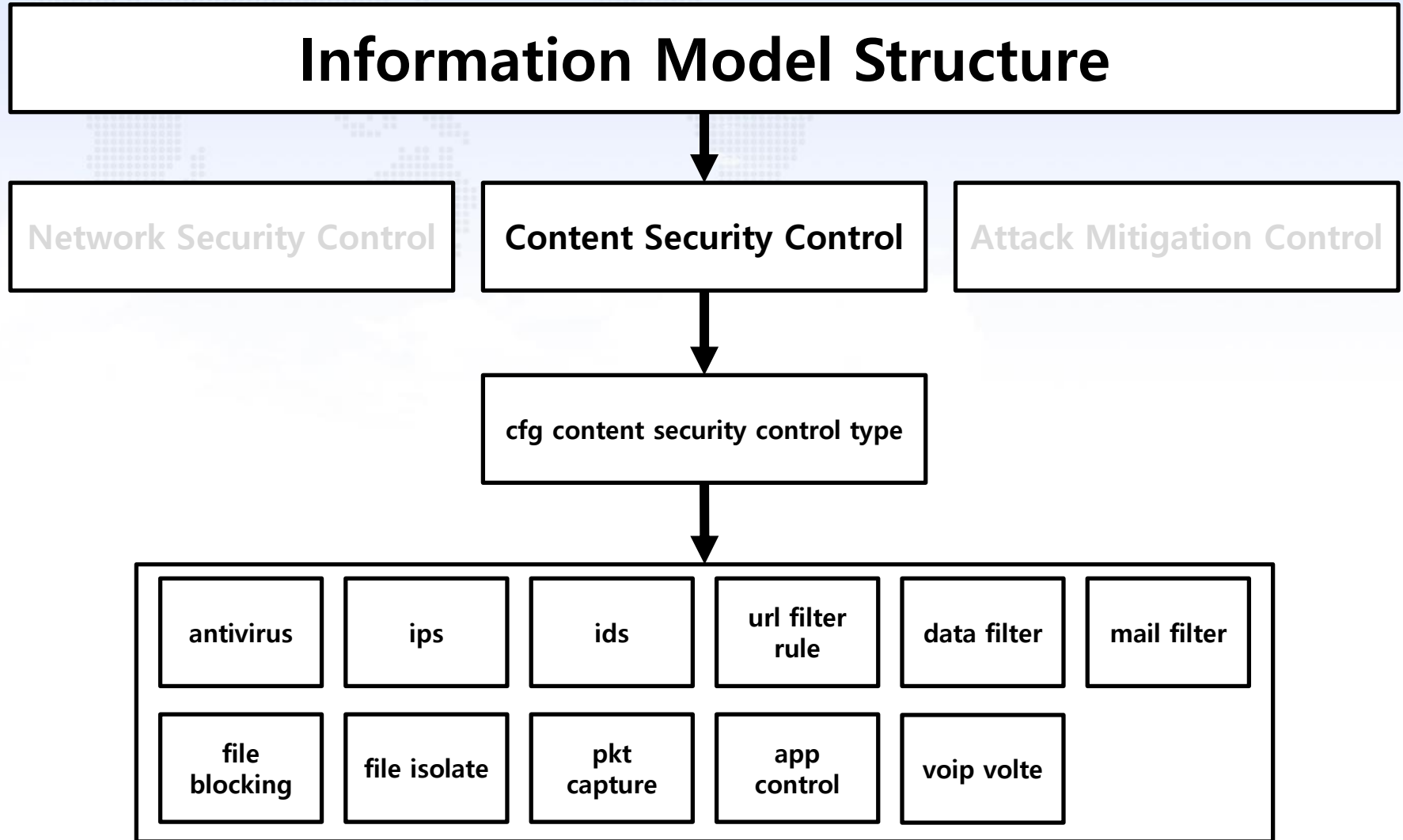
Information Model Structure (1/3)

Overall structure



Information Model Structure (2/3)

Overall structure



Information Model Structure (3/3)

Overall structure

