

AVERT 업그레이드 9.0 – 10.0

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1. 주요 업그레이드 내용

1. AVERT 10.0 패밀리 구성

- **AVERT Core 10.0** : 물리적방호 시뮬레이션을 사용하기 위한 내비게이션 메시 생성기, 경로 발견 엔진, 그리고 시뮬레이션 엔진으로 구성
- **AVERT Desktop 10.0** : 사용자가 모델을 생성하고, **AVERT core** 를 사용하여 시뮬레이션을 수행하고, 결과를 분석할 수 있는 **GUI** 제공
- **Advanced Behavior Module 10.0** : **AVERT Core** 의 기능을 확장해서 분석자가 시뮬레이션 동안 에이전트(가드 및 적)의 행위를 상세하게 제어 할 수 있도록 함.
- **AVERT Physical Security 10.0** : 이 안에는 **AVERT Core 10.0, AVERT Desktop 10.0, AVERT Simulation Controller 10.0, AVERT Process Monitor 10.0, AVERT System Health 10.0, AVERT Reports 10.0** 이 포함되어 있으면 사용자가 모델의 수많은 시나리오를 관리하고 분석할 수 있도록 함.

2. AVERT Virtual Tabletop, and AVERT MPO : 10.1 버전에 포함될 예정.

3. AVERT 10.0 운영환경(APSW, AVERT PHYSICAL SECURITY WEB)

- 서버(**Web** 기반 기술)에 각 사이트 모델에 대한 시뮬레이션 모델과 데이터를 저장하고 여러사용자별로 접근권한을 부여한 후 종합적으로 관리할 수 있는 환경 제공.
- 특정 모델을 추가하여, **Web** 기반 **Simulation Editor** 로 주요 파라미터를 변경하여 실행한 후 저장한후 결과를 관리. 또한 **Master** 모델에서 여러 주요 구성내용(예, **Access Level , Adversary , Barrier** 등)이 변화된 **Child Model** 을 수행하고 관리(비교)할 수 있도록 함.
- 특정 사이트 모델뿐 아니라, 여러 사이트 모델을 관리하거나, 모델 접근 권한에 따라서 **Firewall** 내 기업 관리자 접근권한을 통제하고 관리(예, 본부/지역본부, 규제 당국자/물리적방호책임자/특정 구역 방호책임자 등으로 구분)

2. 업그레이드 버전 별 주요 개선 기능

AVERT 9.0

- **Core**
 - Clamp to terrain
 - Create range detectors from file
 - Create barriers from GeoJSON
- **Advanced Behaviors**
 - Join/leave groups
 - Within Range trigger
- **Simulation Controller**
 - **New web UI**
 - Projects
 - Child models
 - Web playback
- **Reports**
 - Updates to support new sim controller
 - Formatting improvements
 - New drone timeline report
 - New neutralization by layer report

AVERT 9.1

- **Support for AVERT Virtual Tabletop**

AVERT 9.2

- **Support MPO project at CNL**

AVERT 9.3

- **Core**
 - Database performance improvements
 - Support for VTT and MPO
- **Advanced Behaviors**
 - Halt end state

AVERT 10.0

- **Core**
- **Advanced Behaviors**
- **Simulation Controller/Web UI**
 - Improved workflow for managing models, starting and monitoring simulations
 - Improved filtering and UI for simulations list
 - Improved ability to cancel and delete simulations
 - Improved playback (future events visible in playback bar)
 - System health server-side app replaced with web UI

AVERT All Hazards PS -> AVERT PS

These features were previously part of AAH-PS, but will be part of the base AVERT PS product going forward.

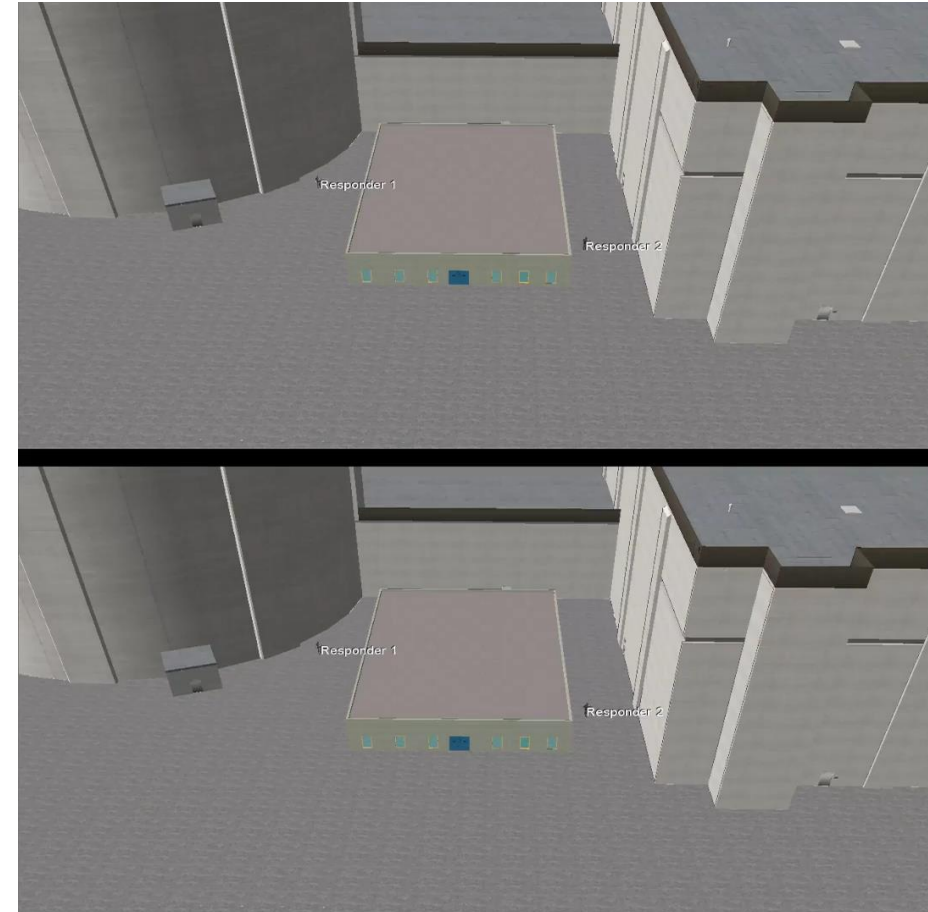
- **All Advanced Behaviors included with AVERT PS**
 - Previously, only Override Path Strategy and Override Target Priorities were included
- **AAH-PS included with AVERT PS**
 - Focus-based detection
 - Confidence-based termination of simulations
 - Guard coordination
- **Sim Controller**
 - Run multiple simulations simultaneously

Advanced Behaviors: End States

- Abandon vehicle
- Add to/remove from group
- ROWS
- Change objective
- Continue attack
- Disable/enable barrier
- Disable/enable behavior
- Disable/enable detector
- Disable/enable equipment
- Disable/enable path override
- Force detection
- Give equipment to agent
- Go to agent
- Go to objective
- Halt/cancel halt
- Multistage breaching
- Pick up equipment
- Interdiction
- Cover
- Weapons free/weapons tight

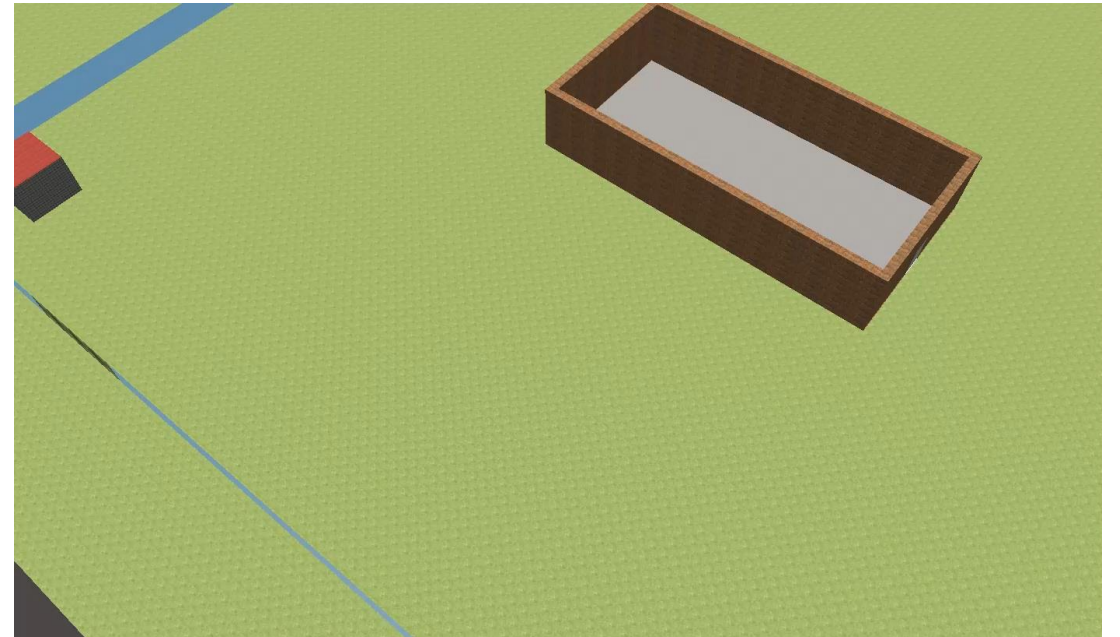
Cover

- Cover and concealment navigates humans, platforms, or robotic agents to sensor blind spots and weapons fire cover points during combat scenarios.
- When in a position of cover, agents can “lean over” to detect and engage adversaries.
- Works in combination with other weightings to optimize based on time, survivability and agent capabilities / physical attributes.



Multistage Breaching

- **Stages can consist of**
 - Approach
 - Setup
 - Retreat
 - Initiate
 - Return
 - Clear
- **Allows flexible modeling of complex breaches**



Quality of Life Improvements

- Easier to log in and use SimController
- Visual Layout of models in relation to each other
(Answers 'what changed when')
- Model relations help confirm library integrity with parent/child relationships
- Added Voids/Nodes/Tunnels to easily draw in basic geometry
- Agent Behavior improvements simplifies interior scenarios while expanding capabilities
- View playback, without opening models, across multiple simulations
- View results side by side and support for opening multiple scenarios at once

Areas of Improvement

- **Advanced Behaviors**
- **Focus Based Detection**
- **Interdiction Points**
- **Cover Points**
- **Tunnels/Voids/Nodes**
- **New visualization tools**
- **Improved configuration and simulation management**
- **One working interface**
- **Increased work output with new workflows and options**

Moving forward, AVERT 10.1 provides a single touch point for AVERT PS and VT where AVERT reports, models, and training can be accessed from one machine and sign on without the user needing to change machine configurations or open multiple applications.

3. AVERT 10.0 시스템 하드웨어 구성

AVERT Desktop 시스템 및 소프트웨어 요구조건

• AVERT 10.0 시스템 최소 요구조건

- Processor – Intel Xenon Silver 4516Y+ 2.2 GHz - 24 cores
- RAM – 128 GB
- Hard Disk Space – 500 GB
- Video Card – NVIDIA T1000 8GB GDDR
- Monitor – 1280 x 1024 resolution
- Mouse – 3-button mouse with scroll wheel
- Software – Operating System: Windows 11
- Java Runtime Environment (JRE) 17
JRE 17 is included with AVERT 10.0.

• AVERT 10.0 시스템 추천 요구조건

- Processor – Dual Intel Xenon Silver 4516Y+ 2.2 GHz - 24 cores
- RAM – 256 GB or more
- Hard Disk Space – 2 TB or more
- Video Card – NVIDIA T1000 8GB GDDR
- Monitors – 27" 4K UHD LCD Monitor
- Mouse – 3-button mouse with scroll wheel
- Software – Windows Server 2019 with Java Runtime Environment (JRE) 17.
JRE 17 is included in the AVERT 10.0 installation Files

AVERT Server 시스템 및 소프트웨어 요구조건

- **Ubuntu 최소 하드웨어 사양**
 - CPU Cores: 8 or more
 - RAM: 20 GB minimum, 32 GB recommended
 - Hard disk: 75 GB minimum
 - Software: Supported Ubuntu OS versions are 18.04 and 20.04

- **추천 하드웨어 사양**
 - **UBUNTU DATABASE SERVER**
 - CPU Cores: 16 or more
 - RAM: 50 GB
 - Hard disk: 500 GB
 - **UBUNTU APPLICATION SERVER**
 - CPU Cores: 16 or more
 - RAM: 24 GB
 - Hard disk: 250 GB
 - **WINDOWS SERVER**
 - CPU Cores: 20 or more
 - RAM: 256 GB or more
 - Hard disk: 2 TB or more
 - Video card