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Intel® SceneScape

Intel® SceneScape is a software platform that reaches beyond vision-based AI to realize spatial awareness from sensor data. It transforms data from many sensors to create and provide live updates to a 4-dimensional digital twin of your physical space.

Executive Summary

With Intel® SceneScape, users are able to use digital twins to look at past analytics, track what is happening in the present, and make predictive decisions for the future.

Intel® SceneScape helps to automate monitoring and tracking and further secure sensitive areas such as airports, hospitals, retail stores, factories, and warehouses. Applying an AI-driven approach to object tracking and scene monitoring, Intel® SceneScape aggregates and integrates data collected from multiple sensor types and feeds providing a singular, 4-dimensional (4D) digital twin of an environment and activity within that environment, without reliance on constant cloud connectivity. Essentially, Intel® SceneScape runs at the edge or in the cloud to offer high-fidelity, smart monitoring and tracking.

Users maintain flexibility with Intel® SceneScape by easily connecting to and integrating existing cameras and sensors and avoiding vendor lock-in through a standards-based approach to the data flowing from the scene. Backed by an extensive reference library including an example scene with multi-view videos and configurations, users can quickly jumpstart their path to automated tracking and monitoring.

Compatibility with other Intel® Software

Intel® SceneScape builds upon the Intel® Distribution of OpenVINO™ framework to transform collected data into viewable intelligence. From raw sensor data into robust 4D digital replicas, Intel® SceneScape transforms 2D camera shots and video streams and synthesizes them into abstraction layers that can be optimized for processing and accelerated across a myriad of hardware types with a single code baseline. Code once and deploy agnostically across CPU, GPU, and even FGPA hardware platforms.

In addition to OpenVINO™, Intel® SceneScape is integrated with the Intel® Geti™ platform to simplify AI model creation and training to meet the unique needs of specific environments or application use.

Intel® SceneScape Capabilities

- **Scene Context** - Scene and Sensor Management utilizes knowledge about sensors to apply scene context. For example, the position of a smart camera in a building allows for mapping the context of detected people from the camera view into building coordinates.

- **Realistic visualization** – Out-of-the-box support for OpenVINO™ models that provide high-angle camera detection of people and vehicles, and integration with Intel® Geti™ for quickly training models for detecting anything.

- **Versatility** – Support for third party inferencing. Quickly integrate Intel® SceneScape with existing vision pipelines – regardless of the platform – to enable multi-camera tracking of objects, people, and events.

- **Visual-based analytics and modeling** – Base analytics tools enable users to create and modify regions of interest, tripwires over a scene and dwell time in a region, even when those regions span across multiple camera fields of view.

- **Multi-sensor data fusion** - Intel® SceneScape merges an object of interest detected from multiple angles in different sensors into a single scene graph node update – removing duplicates and reducing errors.

- **Multimodal detection** - Multimodal tracking allows users to decide what sensors best fit their operational needs. Intel® SceneScape readily handles visual, lidar, radar, infrared, ultra-wideband (UWB), RFID, other radio frequency (RF), Intel® RealSense™ tracking and depth sensing cameras, or even other environmental sensors.

Key new features

- Improved 3D interface for live camera views and easier navigation
- Enhanced visualization of polygon-based sensor volumes and regions of interest in 3D view mode
- Tripwires display in 3D view mode
- Camera calibration interface updates to support higher resolution (HD, 4k, 8k) cameras and larger scene maps, including full image overlays for camera and scene views
- Improved support for AI model training for Intel® Geti™ Computer Vision AI platform and documentation on integrating with Intel® SceneScape (requires separate Intel® Geti™ license)

Recommended configurations

Preferred–Edge Server	Intel® 3rd/4th Gen Xeon® SP Gold 2-socket server; 64 GB RAM; 2 TB Storage	Supports up to 10 cameras
Basic–Edge Server	Intel® 2nd Gen Xeon® SP Gold 2-socket server; 32 GB RAM; 1 TB Storage	Supports up to 6 cameras
Small space/PoC	Intel® 11th/12th Gen Core™ processor	Supports 2 cameras out of box

For additional information, please visit: www.intel.com/scenescape.

For advanced configurations or use cases, please contact your Intel representative or the Intel® SceneScape team through Julie Maas, Sr. Product Manager (julie.maas@intel.com).

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