SIMbox Version 5.6.1 Release Notes

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Version Statement

SimiGon is proud to release SIMbox version 5.6.1.

This version continues to focus on creating a new benchmark for organizations seeking to increase training efficiencies, Operational Readiness and decrease costs.

SIMIGON

1. What's New in Version 5.6.1

I am proud to announce the release of version 5.6.1. This version introduces new capabilities to enhance the overall training concept of SIMbox technology.

SIMbox technology enables us to provide complete innovative training solutions; with this version, we offer a more powerful end-to-end comprehensive integrated advanced Simulation, Learning & Content Management System (LCMS) and Training Management System (TMS) to the entire organizational community.

While the product is being deployed at major programs worldwide, SimiGon continues to lead the training industry with innovative and cost effective solutions. With this important release SIMbox introduces the ability to render full dome, support global world terrain, snapshot capabilities, notification center and many more new capabilities.

As we always look to improve our services to our loyal partners and customers, I would like to understand your needs and challenges concerning SIMbox through our ongoing communication. I am eager to learn more about the business scenarios you were able to face and those you are still facing.

I would like to take this opportunity to thank all our partners out there. You are working at the front to deliver the revolution of the training industry. We could not have done so without you, thank you for your partnership. I'm looking forward to our mutual upcoming challenges.

As always, we want to hear what you would like to see next as we evolve our product. If you feel there is anything we can do to improve the service, please take a moment to let us know about it.

Koby Ben Yakar
VP Products
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2. SIMbox Graphic Engine

2.1. Support for Global World

The graphics engine in SIMbox Version 5.6.1 supports a global world terrain. The terrain engine has been extended to support a low detail level terrain of the entire world. This terrain can be added to any existing terrain to extend its range.

The Extended Global Terrain of the South Western United States with High-Resolution Las Vegas Terrain

2.2. Dynamic Airfields

The terrain engine in version 5.6.1 includes a new dynamic airfield generation system that generates airfield models (including runways, taxi roads, light systems and markings) on the fly using real world data on both local and global world terrains. This data is stored in a database that can be updated regularly as the need arises. You may use this feature in conjunction with the Navigational aids feature and tune in to real world transmitters such as VOR, DME, ILS and more.

An Approach Lighting System (ALS) indicates the approach end of the runway. Runway Edge Lights are white with yellow replaces white indicating the caution zone at the end of the

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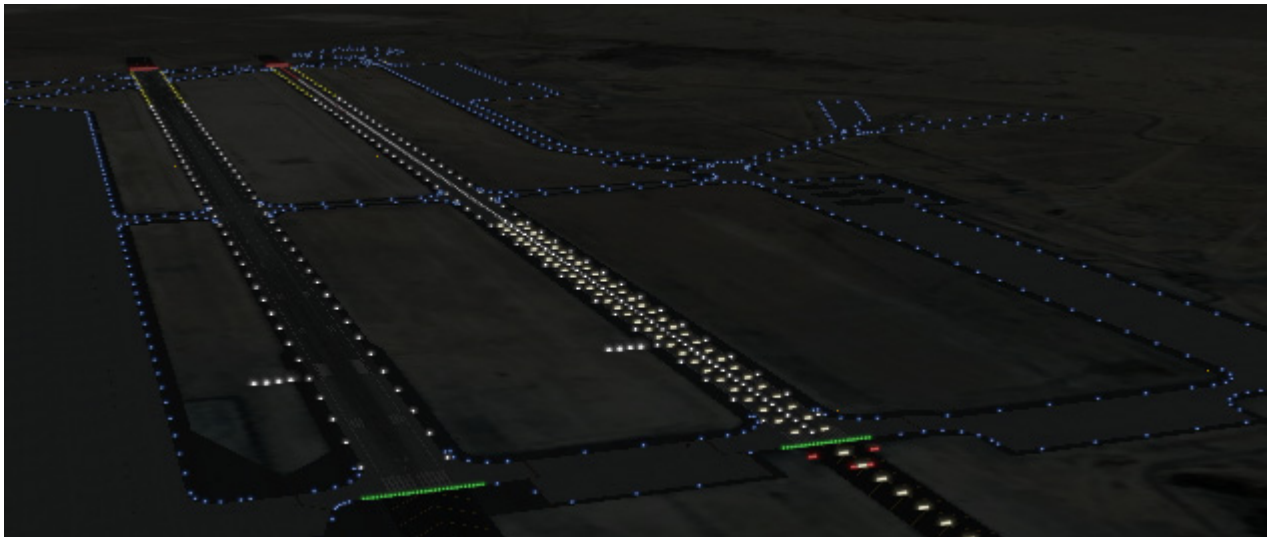
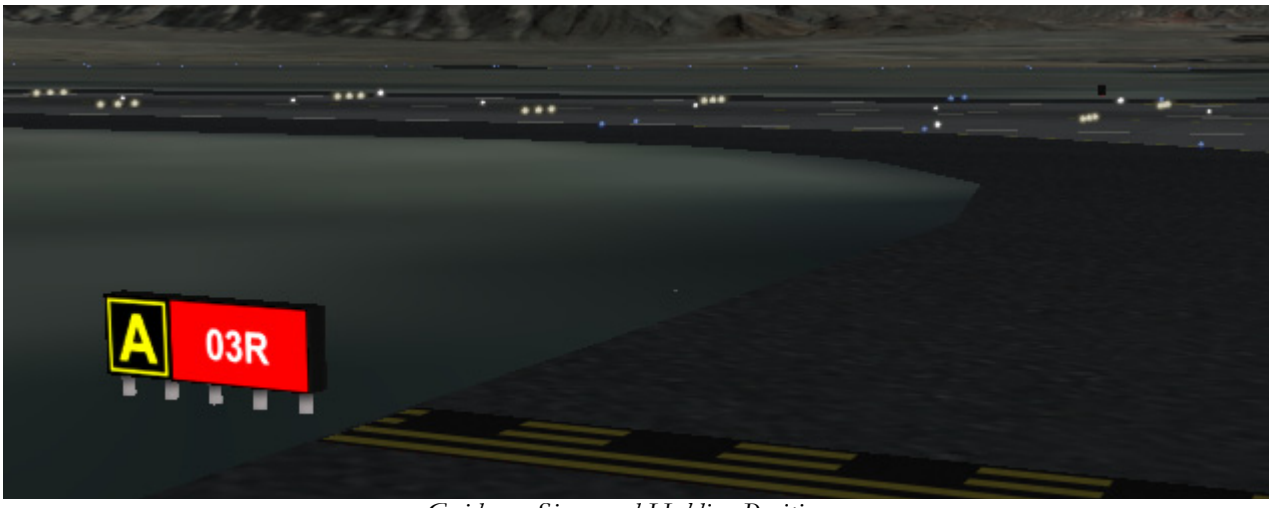
runway for landings. Red lights mark the ends of the runway and green indicate the threshold to landing aircraft. Blue lights mark taxi ways.



Dynamic Lights Showing Runways at Night

Operational guidance signs are lit at night and identify the runway or taxiway currently on or entering. Solid and dashed yellow bars indicate holding positions for runways ahead.



Guidance Signs and Holding Positions

2.3. Distributed Rendering - Side View

Version 5.6.1 supports distributed rendering in the SIMbox graphic engine. The Side View is a graphic-engine feature by which SIMbox can utilize multiple computers or multiple CPU cores to render the content for large monitor arrays.

The Side View feature does not use the Distributed Mission Training (DMT) protocol. It uses a lighter protocol to transmit the information, requiring far less bandwidth to be transmitted. The feature requires a very simple setup which is non-content specific. It can also reach a high level of frame synchronization between windows rendered on the different computers.

A secondary benefit of the Side View is that in certain cases it can be used to improve the frame rate of stand-alone computers rendering multiple monitors. Under this method the

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simulation opens its windows normally. However, behind the scenes the multiple Side View client programs are activated. Each client program is then assigned to a monitor or a pair of monitors which it renders independently of the simulation.

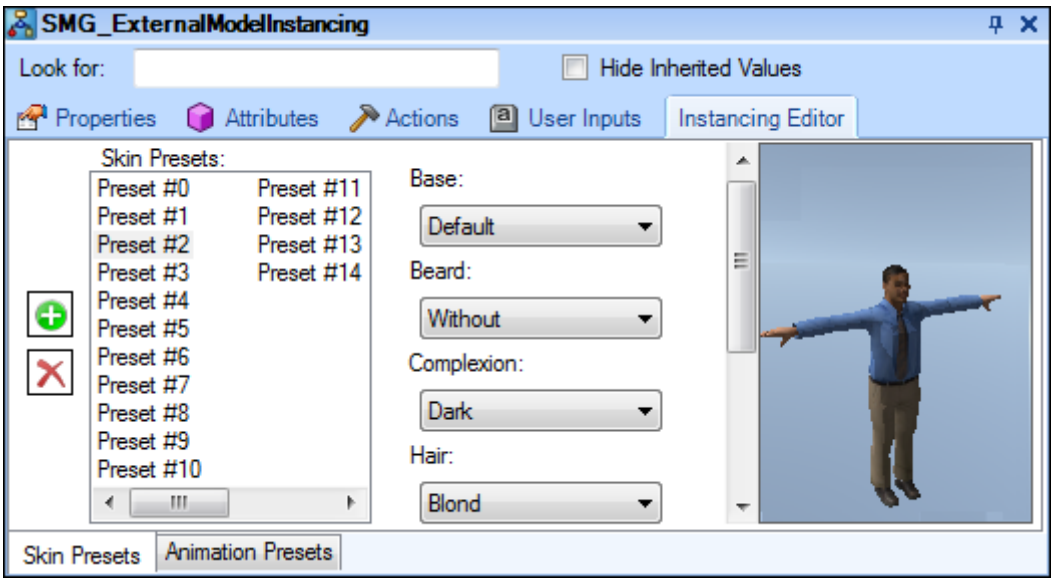
This feature is extremely useful in setting up large dome projector constellations, employing a dozen or more projectors rendering simultaneously.

2.4. Support for Dynamic and Cockpit Lights

Version 5.6.1 supports improved dynamic lights - with enhanced light effect system and cockpit light system. Major work has been done to improve the lighting system in the graphic engine. The work has concentrated on two areas: dynamic lights and cockpit lights. The graphic engine can now support large amount of dynamic lights while maintaining high performance. The graphic engine also boasts a new cockpit light system that can be used to simulate instrument backlights and floodlights. All this translates to a greater ability to create night time scenarios.

2.5. Support for Instancing

Version 5.6.1 graphic engine now supports object instancing for improved simulation performance. Object instancing allows for the creation of large numbers of simple objects to dress the scene. These can be various vehicles traveling along roads or pedestrians walking along sidewalks. Instancing adds a fuller look to a simulation with relatively little impact on performance. Specific content objects already support this capability using design-time and runtime editors that enable tweaking certain aspects of this capability such as skin and animation variations. Instance options are defined in the SIMbox Toolkit where you set the outward appearance and the animation for the object.



The Instancing Editor Tab Showing the Skin Presets

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The Scenario Editor provides instances in the Entity Settings, where the Instructional System Designer can select the various instances for the simulation session.

The Instancing Editor Tab Showing the Skin Presets

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2.6. Support for Snow and Rain

Version 5.6.1 supports realistic weather in the form of snow and rain effects - with clouds and lighting. Select rain or snow from the Environment Settings, and select the density from light to heavy. This feature can be used to simulate more realistic real world conditions where visibility may be limited.

A Simulation Session Showing Snow and Low Clouds

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3. SIMbox Simulation

3.1. Snapshot

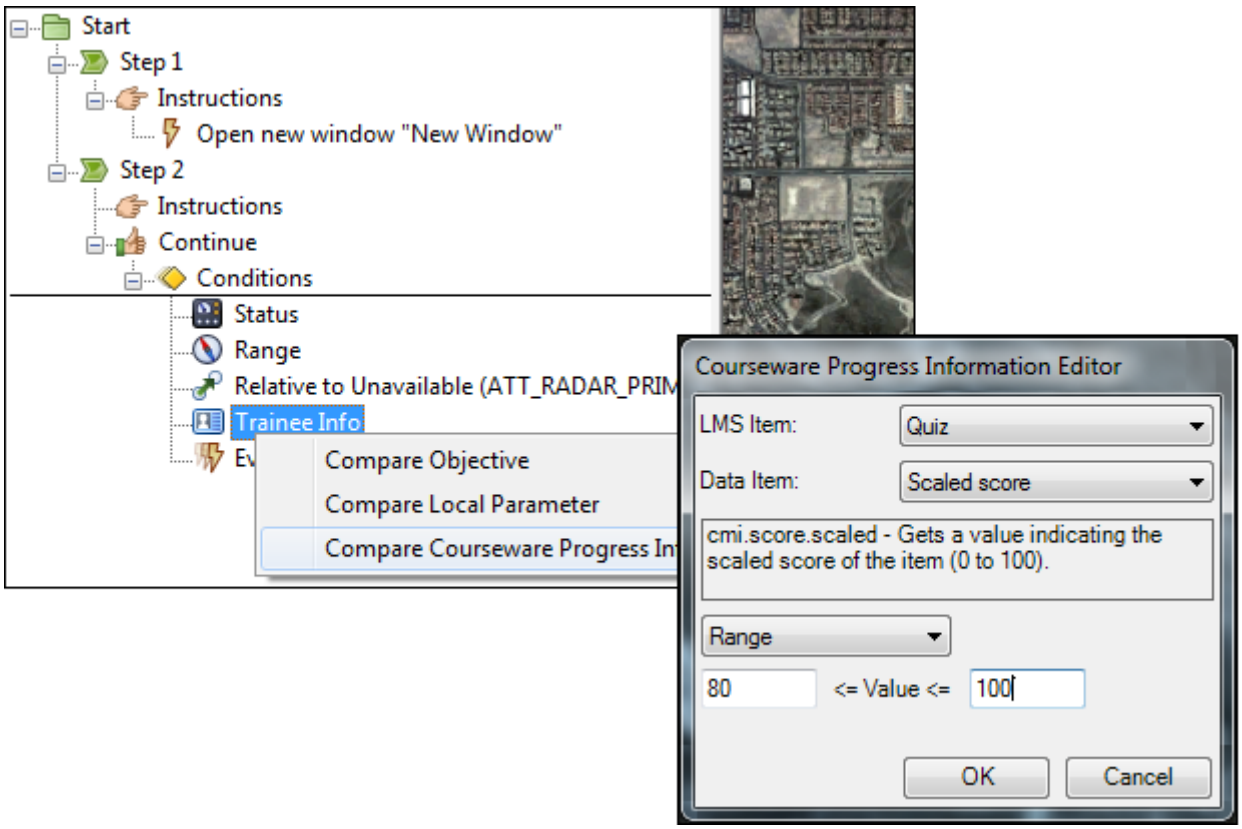
Version 5.6.1 adds the first major milestone for the Snapshot capability which allows saving a snapshot and loading it at a later point in time (implemented in specific base content components). This is extremely useful in cases where the Virtual Instructor (VI) would like to place the trainee back in time in order to provide remediation. Using this capability requires content adaptation to the new API.

Included in this milestone release are static objects and the Cessna172SF. Any base content component included in these objects can be considered as snapshot compliant.

3.2. Simulation and SCORM Integration

Version 5.6.1 provides improved Simulation-SCORM integration (Application Programming Interface for objectives in runtime).

In the new SIMbox version objectives are updated while the session is in progress. This enables the Instructional System Designer (ISD) to embed Learning Management System (LMS) courseware in the session and then apply Virtual Instructor (VI) level sequencing rules that depend on objective value set by the LMS runtime.



The Agent Editor Showing Trainee Info and the Courseware Progress Information Editor

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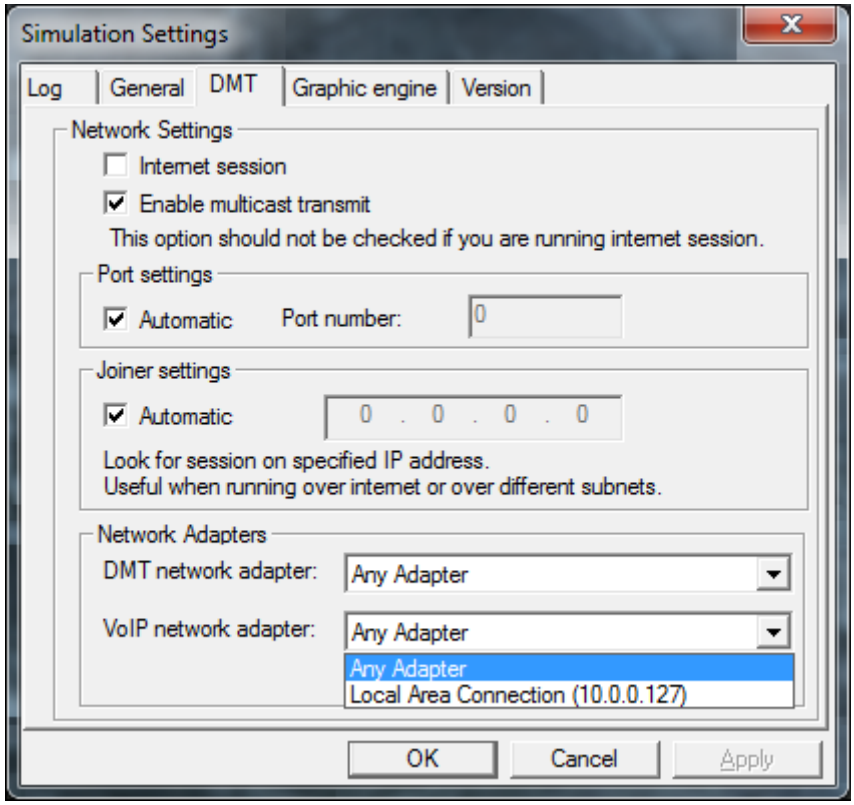
3.3. Dedicated Network Channels for DMT & VOIP

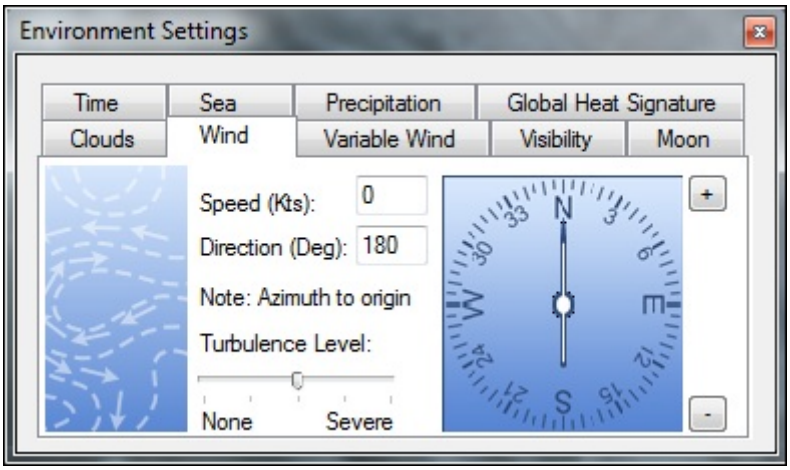
Version 5.6.1 lets you define which adapter the Distributed Mission Training (DMT) and the Voice Over Internet Protocol (VOIP) will use. This level of configuration is extremely useful when you are expecting large data volume because it allows you to use dedicated networks.



The DMT Settings Showing the Network Adapters

3.4. Support for Turbulence

Version 5.6.1 lets you define a turbulence level in the Environment Settings Wind tab. The turbulence influence starts below 3000Ft altitude AGL and increases as the altitude gets lower. When active, turbulence applies high-frequency horizontal and vertical wind gusts on the aircraft, according to the turbulence level that was defined.



The Environmental Settings Showing the Turbulence Level

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3.5. High-Fidelity Flight Model Bell

Version 5.6.1 provides a new helicopter motion model that was created and implemented in the base content helicopters. The model allows you to define several contact points with the ground to simulate various skids or wheels configurations. The model includes an improved aerodynamic model that calculates the rotor force according to the forward and vertical speed based on a thrust-coefficient map that can be defined. It also includes the ground effect influence on the main rotor thrust. The new model enables the landing and operating from other simulation entities such as boats.

3.6. Debrief Video and Audio Channels

Version 5.6.1 provides the ability to define audio and video channels that will run in sync with the debrief time line. These channels may include communication recordings, HUD/MFD videos, external trainee cameras and more.

3.7. Instancing - Scenery Objects

Version 5.6.1 provides the ability to define scenery objects. Scenery objects are objects that do not play a role in the simulation world but bring the session to life in the eyes of the trainee. Such objects may include static cars, trees, debris and so on. The ability to add a large number of scenery objects was introduced using a simple property indicating that the engine shouldn't create a simulation entity but simply display a 3D representation. Combining this capability with the new instancing capability introduces a flexible framework for texture and animation variation with large number of objects. The ISD is free to choose whether a specific entity instance (or a base object) will serve as a scenery object by setting the PROP_CREATE_GRAPHIC_OBJECT_ONLY property to true.

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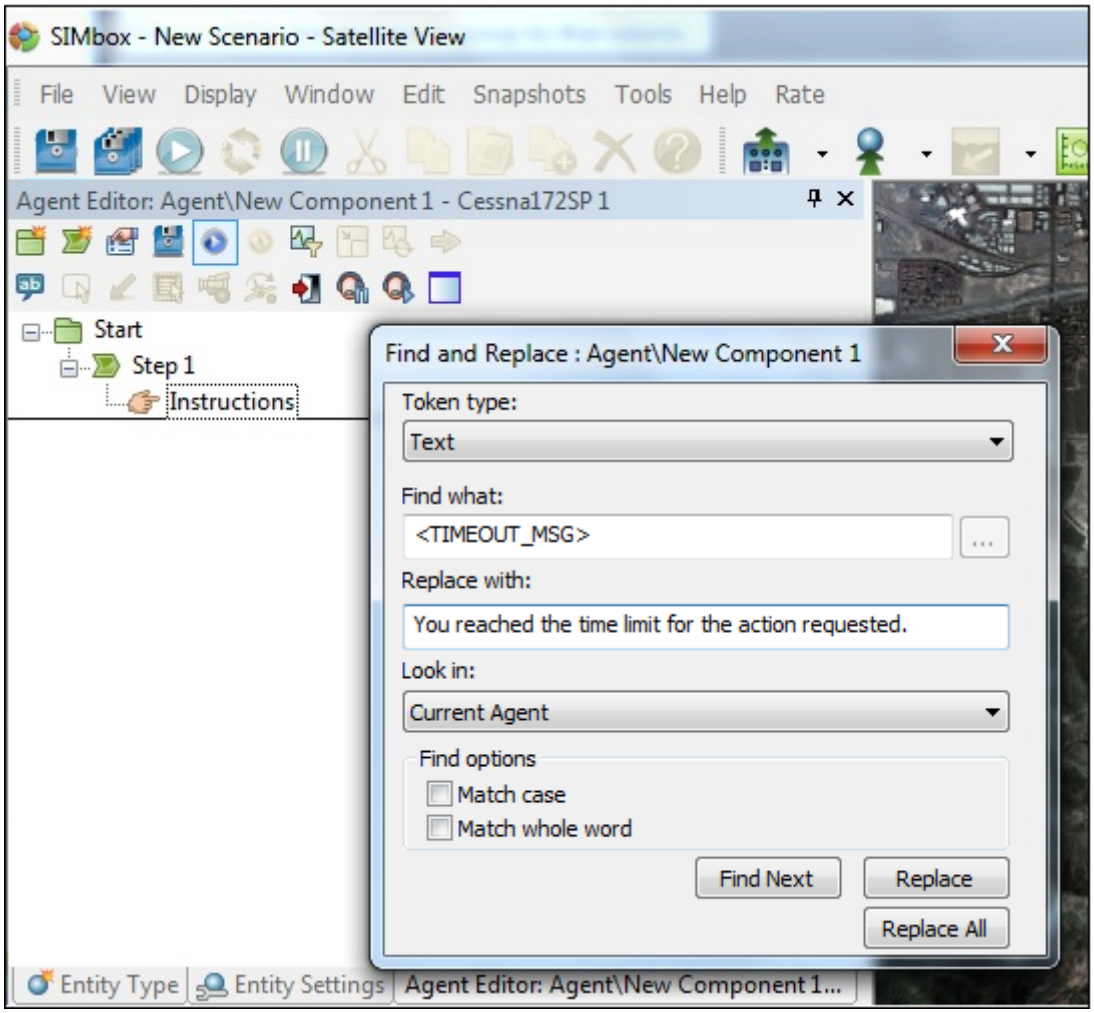
4. SIMbox Toolkit

4.1. Agent Editor

4.1.1. Find and Replace in Agent

Version 5.6.1 Agent Editor improves efficiency for the Instructional System Designer (ISD) by adding the ability to find and replace for certain elements in agents. The ISD can reuse steps and use tokens as placeholders.



The Agent Editor Showing the Find and Replace Dialog

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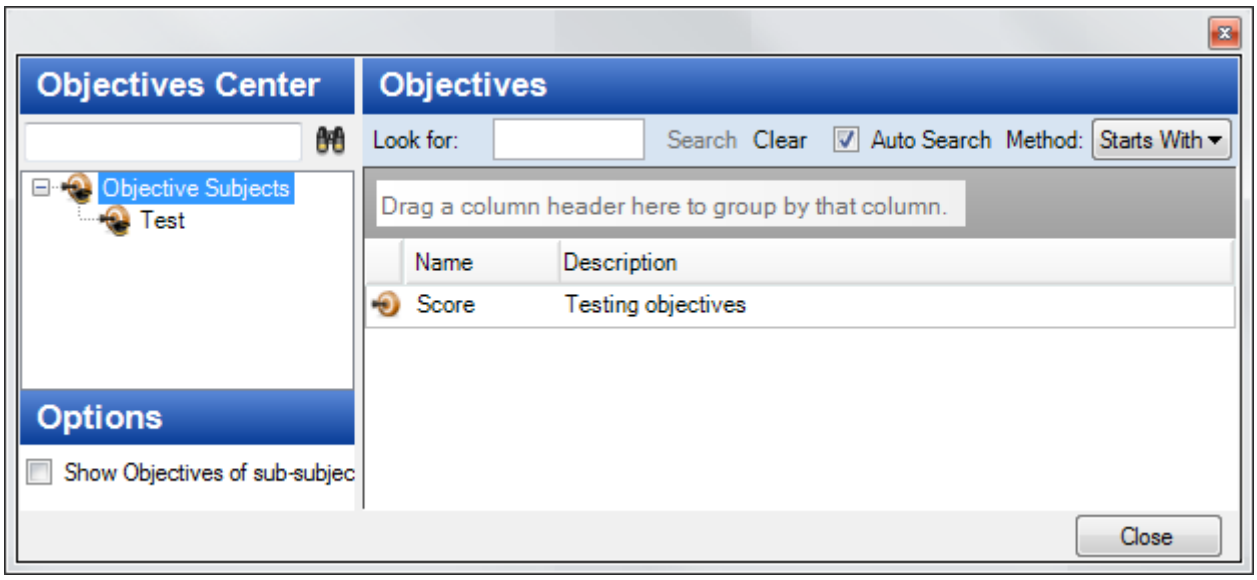
4.1.2. Objective Center in the Agent Editor

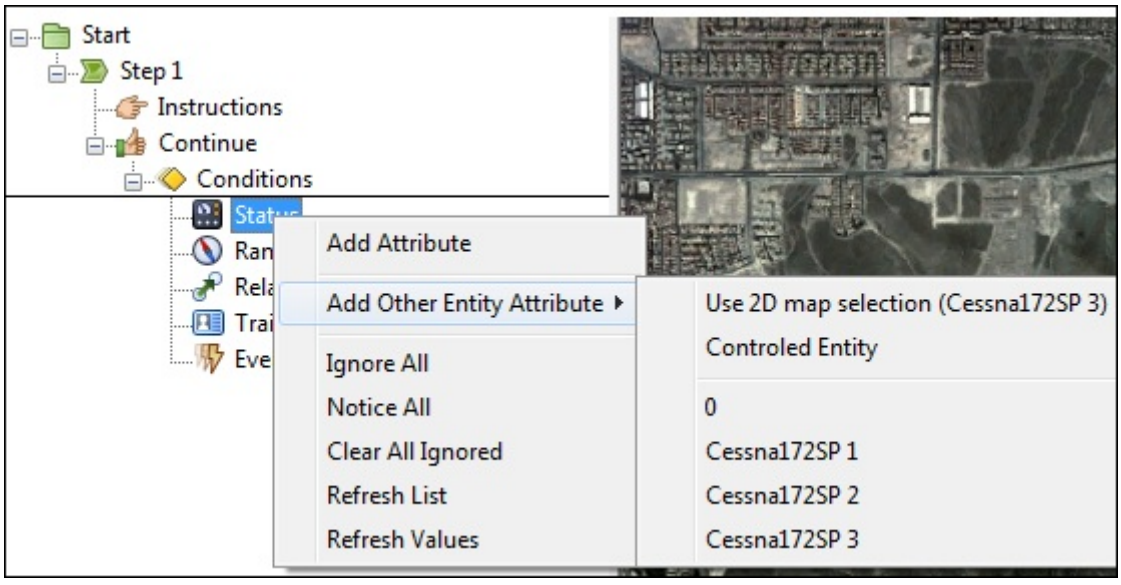
The Agent Editor in version 5.6.1 now uses the LMS Objective Center and allows using hierarchies and containers when working with large number of objectives.



The Objectives Center Available from the Agent Editor

4.1.3. Sequencing in the Agent Editor

The Agent Editor in version 5.6.1 adds the ability to monitor several entities in the same condition. This greatly improves ISD productivity and eliminates the need to create complex sequencing rules.



The Agent Editor Showing the Ability to Monitor Several Entities

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4.2. Scenario Editor

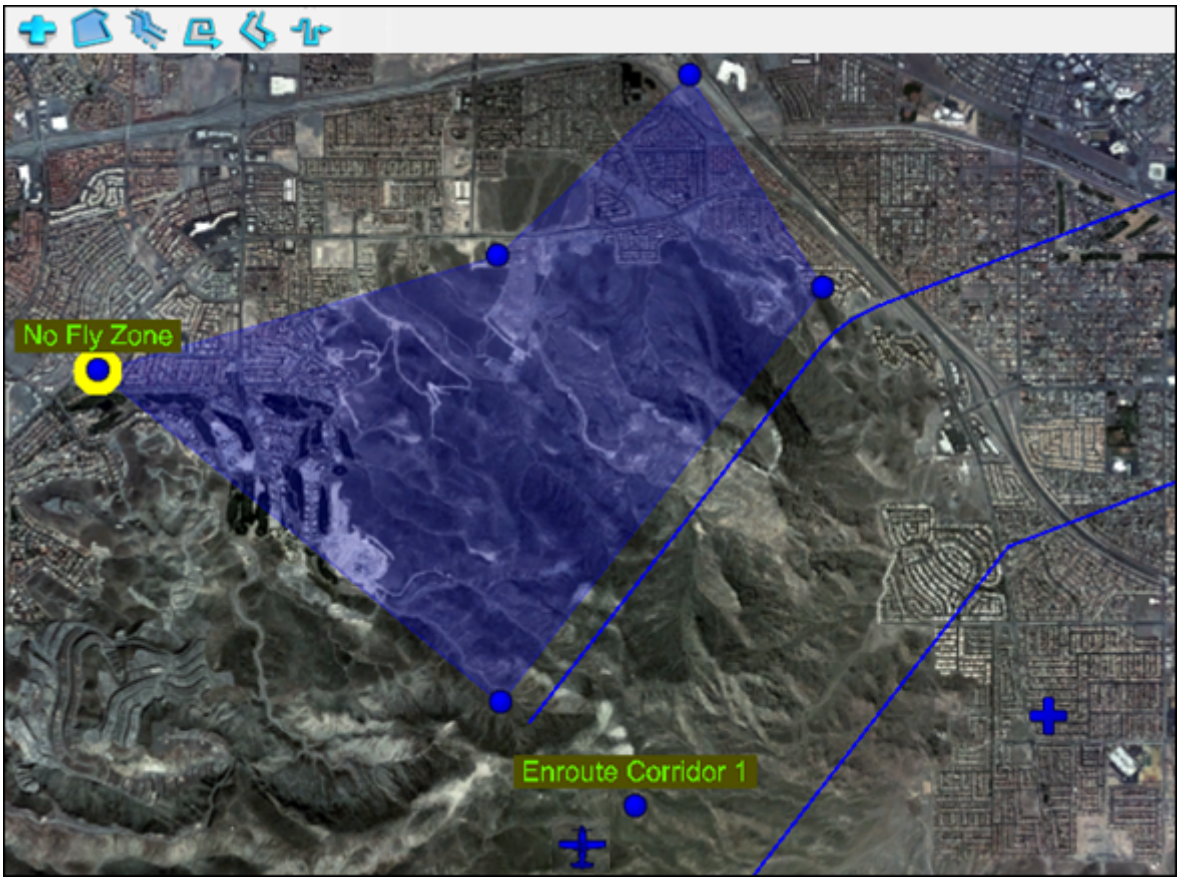
4.2.1. Mission Planning Tools

Version 5.6.1 introduces Mission Planning Tools (MPT) – added a new toolbar to the Scenario Editor that enable the Instructional System Designer to place different types of landmarks that enrich the scenario and provide a new training layer.

The MPT toolbar in the Scenario Editor provides the tools for pilots to plan and practice search and rescue missions. Plan your mission by quickly and easily incorporating search patterns into your flight plan. Typical search and rescue flight patterns are easy to add and edit in the 2D map.

The mission planning tools can be viewed in the 2D Satellite view in the Scenario Editor and during the simulation session.

The Mission Planning toolbox provides advance search and rescue flight patterns and navigation options. The Mission Data Set consists of Geographic Points of Interest, Tactical Areas/No-Fly Zones, En-route corridors and 4 types of Search and Rescue (SAR) flight patterns. These search patterns include SAR sector/Datum, SAR Expanding Square, SAR Track Crawl and SAR Creeping Line Ahead.



The 2D Satellite View Showing the Mission Planning Tools

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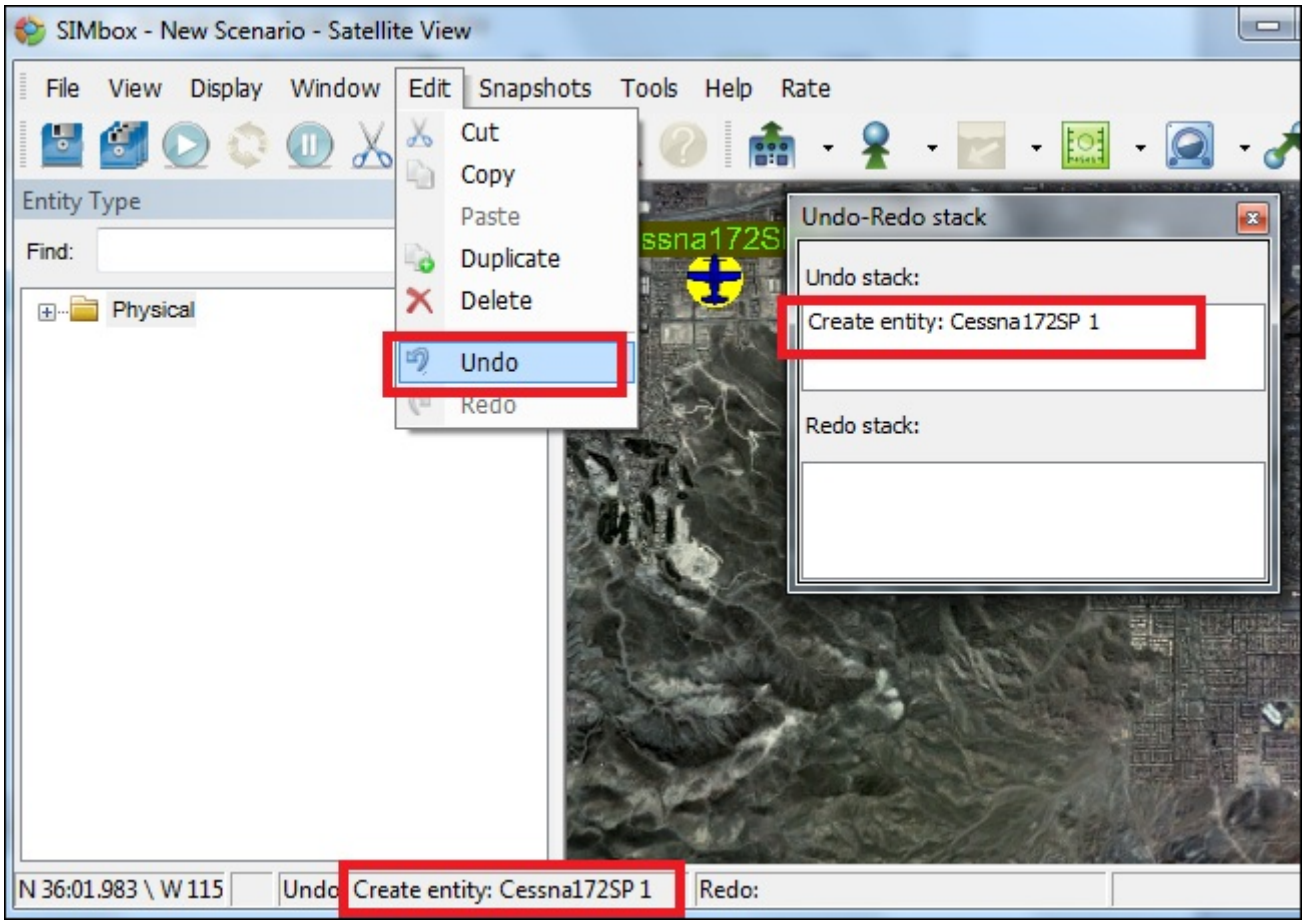
4.2.2. Undo/Redo in the Scenario Editor

The Scenario Editor in version 5.6.1 now supports the undo-redo mechanism for many operations in the scenario. These operations include:

- Manipulating entities: creating, deleting, duplicating, cut-paste operations, group, ungroup.
- Changing entity settings: all the properties that appear in the **General** tab, **Startup Parameters** tab, **Instancing** tab and the **Formation** tab.
- Moving entities on the terrain.
- Adding/removing templates.
- Changes made to the Environment settings.
- Changes made to the Controlled entity.
- Attaching/detaching an entity to/from a route.

The Undo/Redo mechanism receives command inputs from the Edit menu (Undo and Redo) and from the keyboard input combinations Ctrl+Z and Ctrl+Y. There are visual cues of the current status in the Status bar and the Undo-Redo Stack dialog.



The Edit Menu, Undo Stack and Status Bar After Creating an Entity

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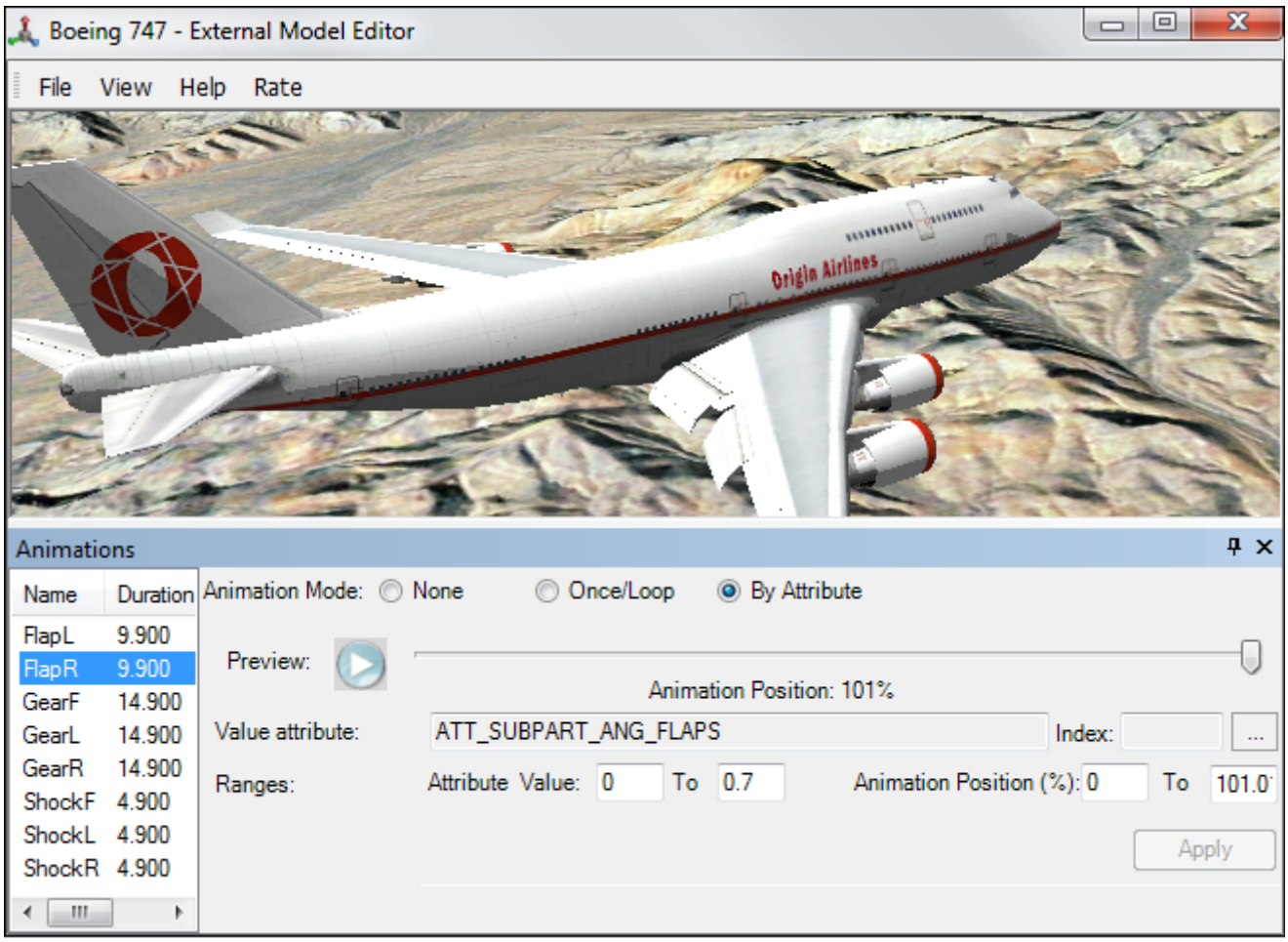
4.3. External Model Editor

4.3.1. Animation Automation

Version 5.6.1 introduces a new tool to the External Model Editor that enables automating model animations defined by the 3D artist by binding certain aspects to simulation attributes.



The Animations Editor Showing a Preview Animation of the Right Flap

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5. Learning Management System (LMS)

5.1. LMS Server

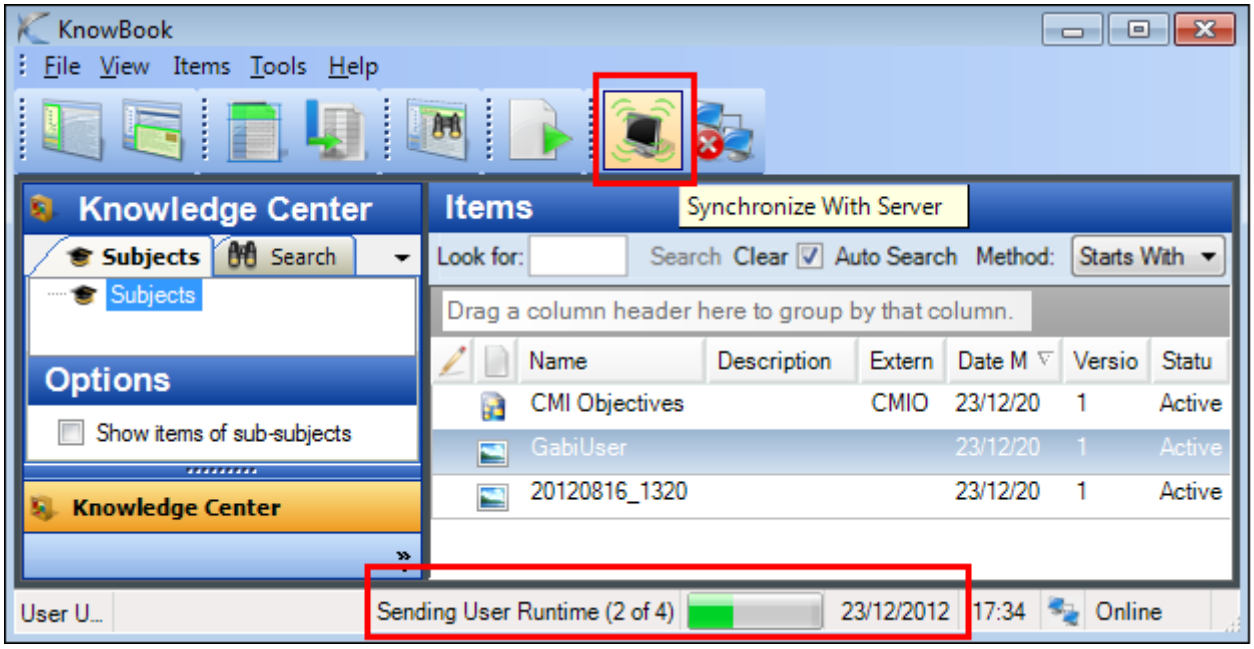
5.1.1. Auto Synchronization

Version 5.6.1 provides powerful ability to synchronize client machines with new published courseware's in the background so that there is zero wait time when the user logs in to the LMS. The Auto Sync feature will automatically synchronize the content on client machines with the LCMS Server content without having to login to the client.

Once Auto Sync is enabled, every user that logs into the LCMS client will be synchronized with the LCMS server without the need to login to the LCMS client and sync with the server. This capability is useful where trainees are offline for long periods, and their local client needs to have updated content from the LCMS server when they do login to the client. Trainees do not have to manually sync with the server when they login to the client after a long absence.

5.1.2. Background Synchronization

With version 5.6.1 SIMbox LCMS provides the ability to synchronize the client with the server while the client is idle, in the background. During user-log-in, and when the user initiates a synchronization with the server, the synchronization runs in the background. The user can continue working with the system during the background data synchronization. Any updated information or content from the server will automatically update on the client computer when the sync completes. A progress bar appears in the status bar while the system synchronizes in the background.



The Status Bar Showing the Synchronization Progress Bar

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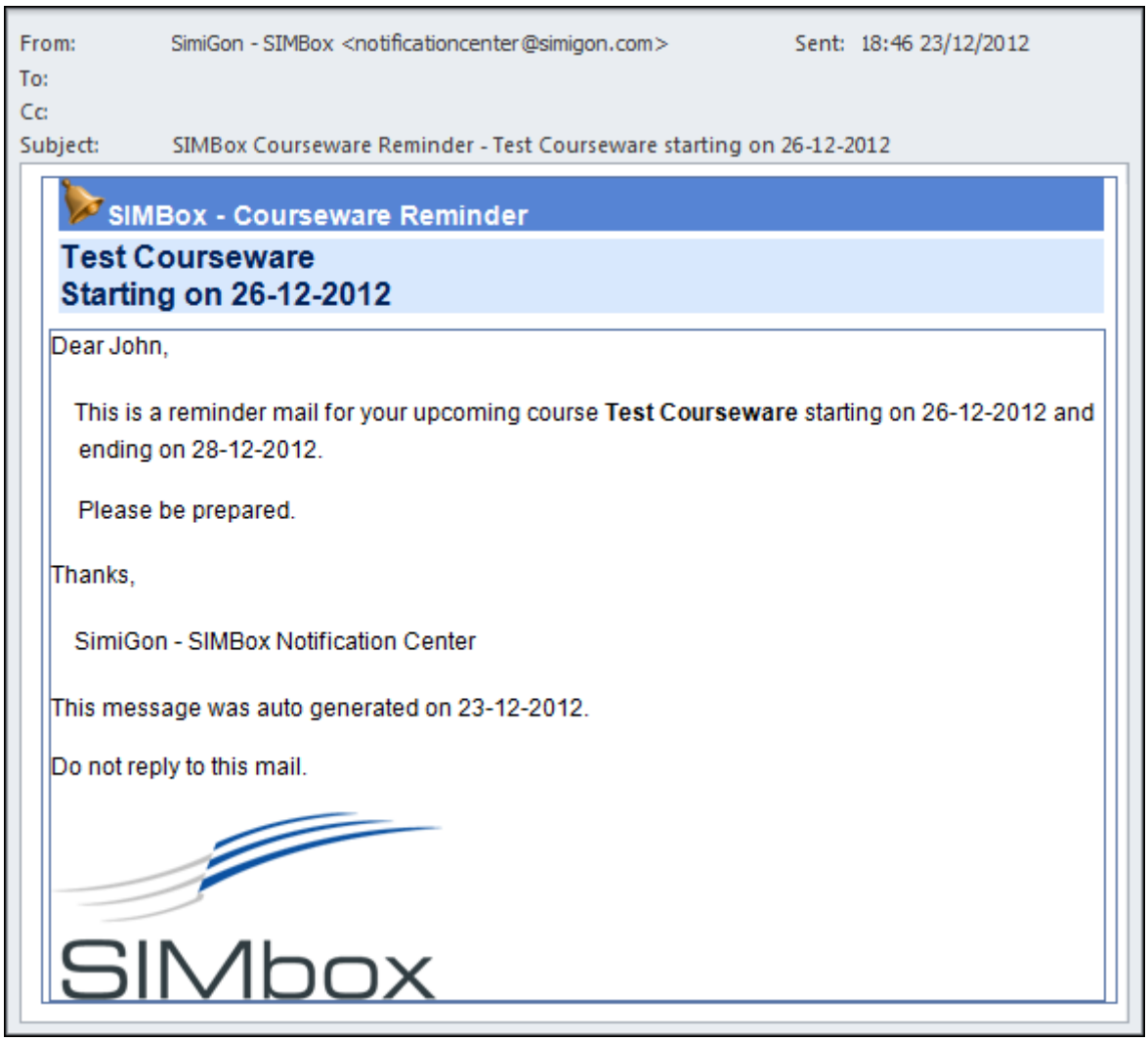
5.1.3. Notification System

Version 5.6.1 introduces the SIMbox Notification Center which notifies trainees via emails with regards to upcoming courses and published coursewares. In addition, the SIMbox Notification Center can send a daily courseware summary via email to the relevant instructors or courseware publishers.



A Sample Courseware Reminder Email from the Notification Center

The SIMbox Notification Center configuration utility resides on the SIMbox server, and allows the administrator to configure notification settings and edit the email notification templates.

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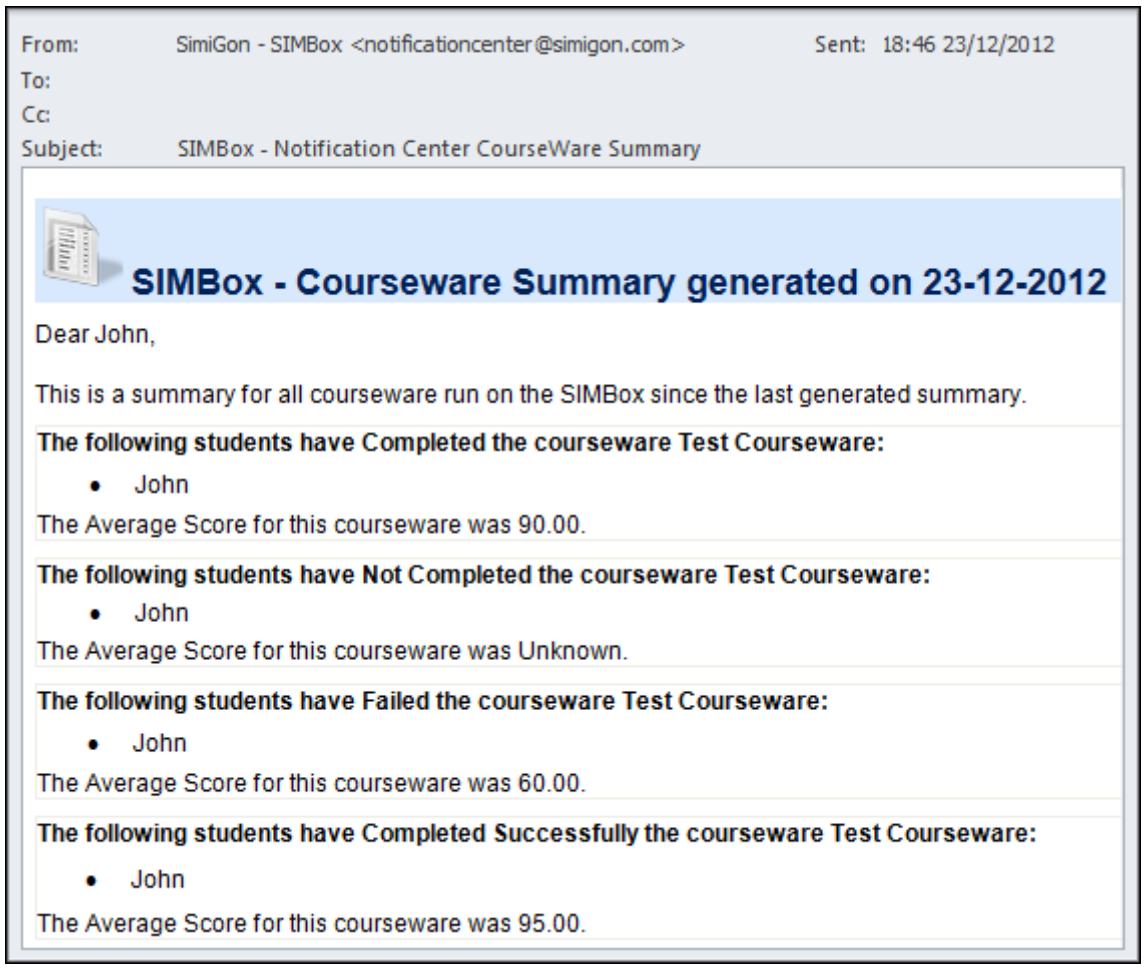
The notification templates can be customized and personalized to the relevant organization needs. Notification emails can include a variety of attachment files defined in the email template folder, for example, PPT, PDF, Image files.



From: SimiGon - SIMBox <notificationcenter@simigon.com> Sent: 18:46 23/12/2012
To:
Cc:
Subject: SIMBox - Notification Center CourseWare Summary

SIMBox - Courseware Summary generated on 23-12-2012

Dear John,

This is a summary for all courseware run on the SIMBox since the last generated summary.

The following students have Completed the courseware Test Courseware:

- John

The Average Score for this courseware was 90.00.

The following students have Not Completed the courseware Test Courseware:

- John

The Average Score for this courseware was Unknown.

The following students have Failed the courseware Test Courseware:

- John

The Average Score for this courseware was 60.00.

The following students have Completed Successfully the courseware Test Courseware:

- John

The Average Score for this courseware was 95.00.

A Sample Courseware Summary Email from the Notification Center

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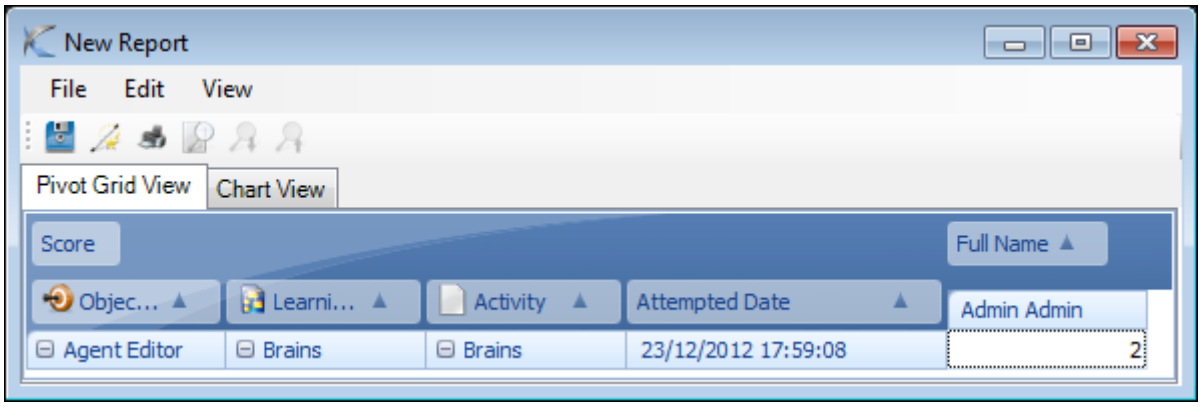
5.2. Reports

5.2.1. Objective Report

Version 5.6.1 increases usability of the Users and Objective Report by showing the courseware that was used to set the objective score. This can be courseware that the instructor used to give the trainee feedback or in case of a virtual instructor, the name of the session.

Instructors now have access to a more flexible reporting picture of the objective value and status, and at the same time the courseware/session that used the objective.



An Objective Report Showing the Objective Courseware

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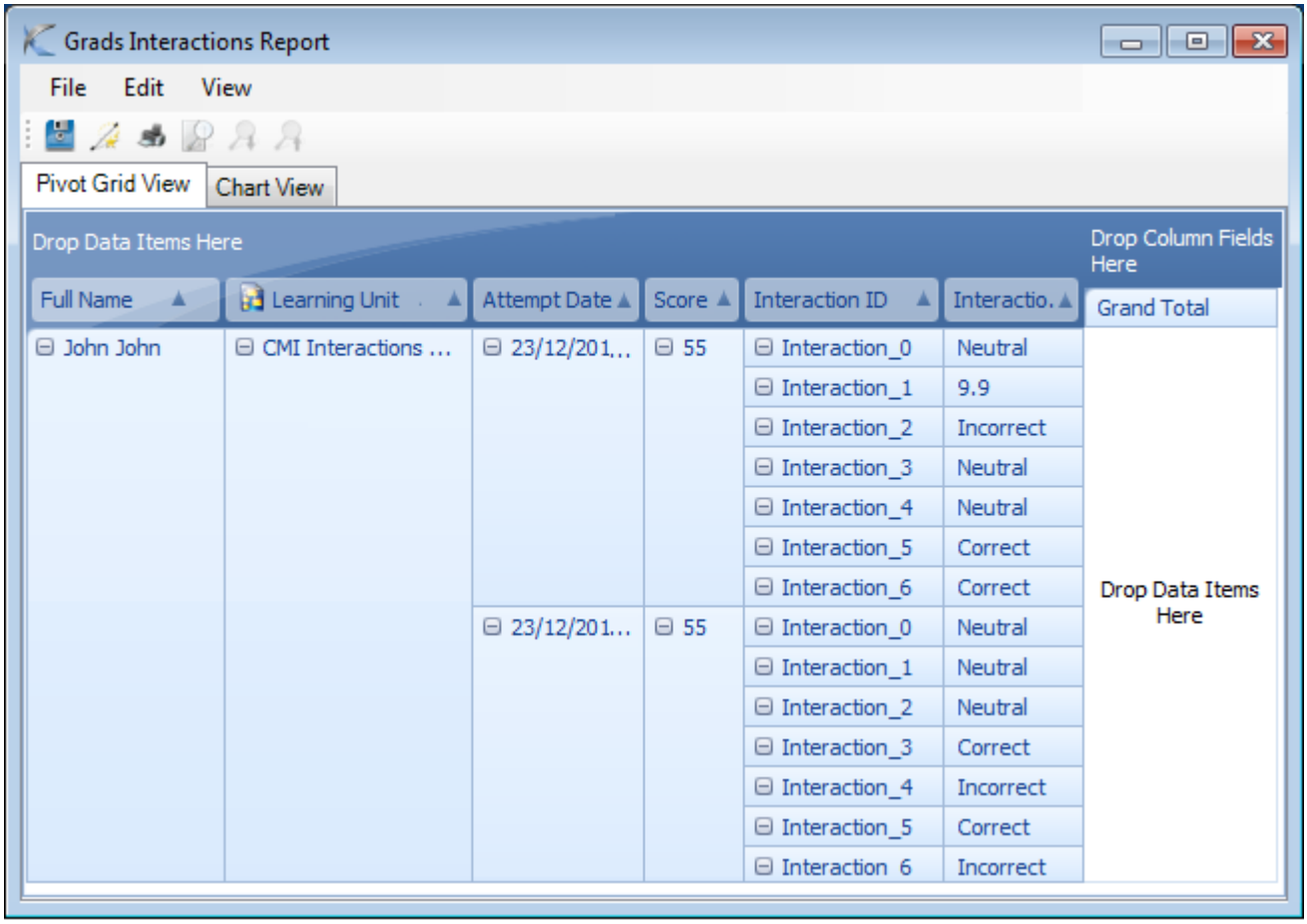
5.2.2. Grades in Interaction Reports

Version 5.6.1 allows Interaction Reports to show grades in the new Score and Success Status columns. Up to now these columns could only be seen in the Users and Items Report.

Now it is easy for instructors to view the final grade and statues along with the answers that the trainee answered during the quiz.



The Interaction Report Showing Grades

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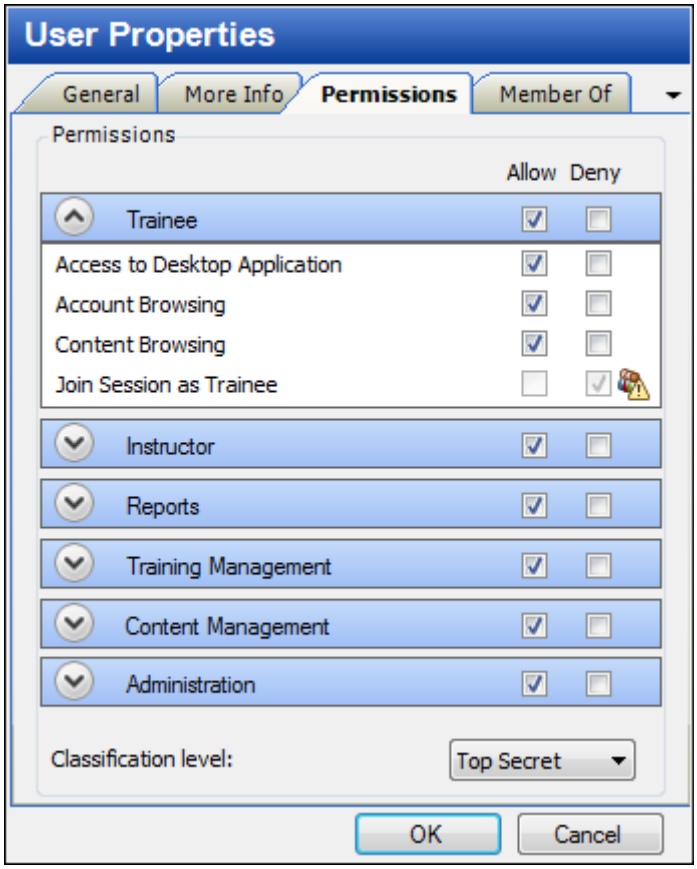
5.3. Client Interface Improvements

5.3.1. New Design for the Permissions Tab

Version 5.6.1 provides a new design for the Permissions tab of the User Properties that is more efficient and easier to use. The Permissions tab now contains permissions grouped by user roles. Each group contains permissions sorted by alphabetic order.



The User Properties - Permissions Tab

5.3.2. Improved User Experience

Version 5.6.1 provides an LCMS with several new improvements under the hood, greatly enhancing the responsiveness and the overall experience using background operations, process optimization and more.

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5.3.3. Ability to Restore Password

Version 5.6.1 provides the new ability to restore a forgotten password. If the password needs to be restored, click the “Forgot your password” link to receive an email containing a link to reset the password.

The Client Log-In Screen Showing the Forgot My Password Link

5.3.4. Cross-Browser Support

Version 5.6.1 introduces cross-browser support.

Supporting all major browsers: Internet Explorer (versions 7, 8 and 9), Firefox, Google Chrome and Safari.

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