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MACE 2018 R1

What's New?

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MACE 2018 R1 – What’s New

Hello everyone! Today we are happy to announce that MACE 2018R1 is now available for download as an official release. Before we get into our summary of the new features, I would once again like to extend a sincere “thank you” to everyone who helps us continuously improve MACE. It is extremely fulfilling for us to see people using our software. If you are a MACE user and find yourself saying “if only these guys would add such and such a feature, it would make my life so much easier/help meet additional training objectives” – then please tell us! Many of the best ideas for MACE improvements come from you, our existing customers.

We’d also like to extend our thanks to everyone who came to our MACE User’s Group (MUG) a few weeks ago in Ft Walton Beach. We had a record turnout with attendees from the Air Force, Navy, Army, Guard/Reserve and of course our industry partners. We’ll do it again next year!

There are many improvements in this version of MACE; this document contains a summary of those improvements, but if you encounter any changes to the MACE user interface not mentioned in this document, please reference the MACE 2018R1 User’s Manual (which installs with MACE).

Air-to-Air Improvements

MACE 2018R1 includes many improvements for simulating Air-to-Air engagements. More will follow in our next release as well. Here is a summary of those improvements:

- Added the ability to define passive radar homing Air-to-Air (A/A) weapons, with tunable seeker frequency ranges
- Passive targeting works for A/A weapons that support it
- Improved the performance of within-visual-range (WVR) IR weapon performance
- Improved semi-active radar (SAR) missile performance
- A large number of data fixes for A/A missiles
- Better weapon prioritization during engagements
- Added Target Aspect, Antenna Train Angle, Target Closure, and Distance to Weapon Engagement Zone (WEZ) to Engagement Summary information in Platform Properties window.
- With ALT key depressed, you can mouse-hover over an air platform while another air platform is selected and MACE will give BRAA from selected platform to the air platform under the cursor.
- HUD for air platforms more closely resembles standard combat HUD
- Pitch ladder is hashed to indicate flight path angles below horizon
- Pitch ladder has tails on flight path angle rungs to indicate direction to horizon
- Velocity Vector has been added as a configurable/selectable option in MOCT HUD config
- Added a number of (selectable in MOCT HUD config) data fields to the HUD, to include:
 - Groundspeed
 - Laser designator code
 - Load factor
 - Vc (closing velocity) and BRAA in target summary if targeting an air platform



Figure 1: HUD Improvements (when using MetaVR's VRSG Image Generator)

Joint Fires Improvements

The 9-Line form has been redesigned to support new capabilities requested by our many Joint Fires customers. These include:

- Per aircraft final attack heading range / self-designation
- Better ability to reach Times on Target (TOTs)
- Implemented overbank for dives
- An option to insert rather than replace existing route



The screenshot shows a software interface for configuring a 9-Line mission. It includes fields for mission parameters like IP/BP, altitude, and distance. There are sections for approach and delivery settings, attack timing, and a detailed 'Air Assets' section where multiple aircraft assets are configured with specific heading and priority settings. A 'Messages' section is also visible at the bottom.

Figure 2: Redesigned 9-Line Form

Datalink Improvements

Gateway

We've implemented the ability for MACE to simulate datalink Gateways between SADL and Link-16. To do this, you need only add the new 'TDL Gateway' equipment item to any platform, and that platform will act as a gateway. In MACE's default order of battle, the ASOC C3I Building and KC-135 ROBE aircraft will have the TDL Gateway equipment by default.

Pattern-of-Life Improvements

We made several improvements to pattern-of-life simulation in MACE. One such improvement is smarter lane-changing logic for vehicles that are following road vectors; not only will vehicles now detect that there is a vehicle in front of them, they will check to ensure the lane next to them is clear. If it is, they will change lanes to pass the vehicle in front of them; if not, they will slow down until they can change lanes.



We've also improved pathfinding; you now have the option to include cultural DIS entities (such as buildings) in the pathfinding logic.

Improvements to the Classified MACE Database

There will be an update to the MACE classified database posted soon that was tested against MACE 2018R1. It contains many small data fixes to support the import of electronic orders of battle (EOBs) into MACE. Upon import, MACE creates an IADS (integrated air defense system) from this EOB. This is a very fast way to create a representative IADS in MACE using actual system locations and RF characteristics.

Please [contact us](#) if you would like the download link for the classified MACE database (SIPRNet access required, of course).

Other Improvements

There are many other improvements in 2018R1 – too many to go into detail on all of them. Here's a quick list of additional improvements:

- Additional weapons now supported on Call for Fire (CFF) form.
- Camera lock on Laser Spot.
- Partial parsing of OPTASK-LINK messages (parses track ranges for AWACS/J-STARS)
- Support for CDB elevation.
- Smarter fixed wing move to target.
- GARS: Can now draw GARS grid on map; added script trigger based on entity being within a GARS.
- Aggregates: Sync aggregates over DIS. Added Surface/Subsurface symbology.
- J-Series: Dead reckon J3s, more control over J3 sending. Optionally manual WILCO J12.0s.
- MACE-to-MACE: Control essentially any aspect of an external MACE entity from Entity Control ribbon, Entity Control window, map commands, 9-line/5-line, or even via scripts without a MACE to MACE transfer. Synchronize weapons of platforms between MACEs if Platform Status PDU enabled.
- Shared logging between MACEs.
- Water is now included as an 'avoidance' feature (when using BSI's worldwide map/osm database).
- New Windows version of our Worldwide Map/Road database is now available (if you purchased the Linux version earlier and would now like to switch to the Windows version, please contact us and we will provide it at no charge)

Resources

As a reminder, we have a series of MACE Tutorial Videos posted on our YouTube page. They are the first nine videos posted here: <https://www.bssim.com/videos/>

There are many other videos posted on our YouTube page as well, designed to demonstrate specific capabilities or new features: <https://www.youtube.com/user/BattlespaceSims/videos>

If you have any questions please e-mail us @ support@bssim.com and we will do our best to reply within one business day.



Get Your MACE!

As usual...you can get it here: http://downloads.bssim.com/MACE/Latest_Release/ (usr: JT@C pwd: @!rp0wer).

Note: Before installing MACE for the first time on a particular PC, you should download and run the latest version of our pre-requisite installer. This will ensure you have the correct version of DirectX, Visual C++ runtime, and a few other required files. You can download the latest version of the prereqs from the same (latest release) folder. If you are updating from 2017R1 to 2018R1 you do not need to re-run the prereqs.

Thanks again everyone, and please let us know if you have any suggestions or encounter any issues with this new MACE.

Best Regards,
The BSI Team