

JASS • Joint Agent-based Simulation System

JASS is a multiagent simulation system representing joint and combined forces (military and civilian) in natural and man-made environments.

JASS can be operated on a single, or on multiple computers at different locations. It uses a standardised graphical user interface and is HLA-compliant.

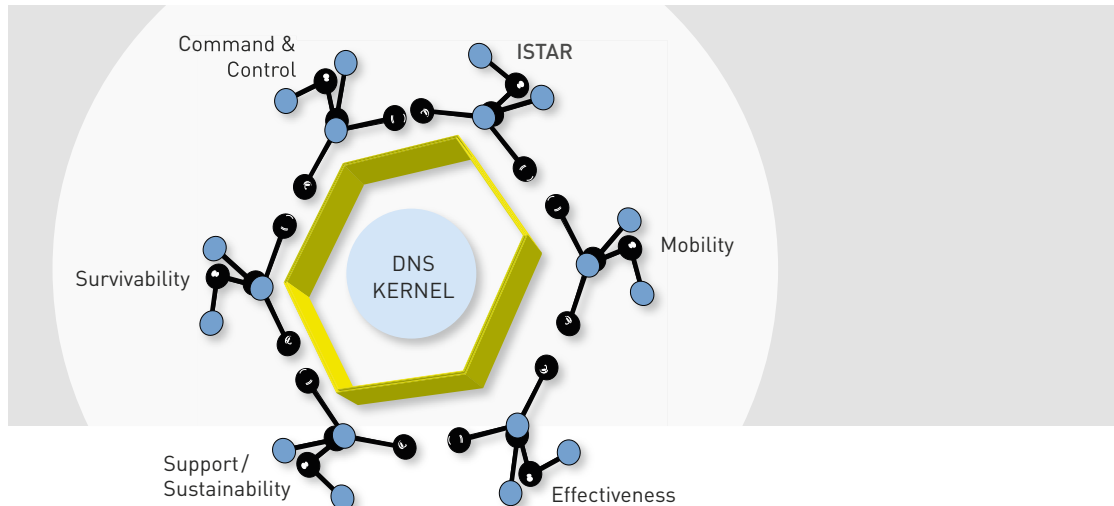
JASS provides efficient interoperable automatic netted services that support

- Preparation of simulations,
- Execution of simulations and
- Analysing simulation results.

Due to its comprehensive design JASS can be used for Operations Research (e.g. development and analyses of forces structures and operational plans), experimentation and testing, as well as for training and exercises.

JASS – Architecture

(like a molecular structure)

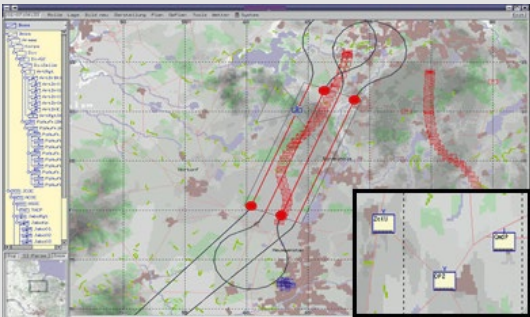




Situation map (3D)



Terrain representation



UAV Reconnaissance/Ground stations

Characteristics of JASS and their practical application

- Modelling the intention for experimentation in the experiment-environment
 - Suitable to scope: as much as necessary, as less as possible
 - Suitable to level: as detailed as necessary, as simple as possible
- Fast and flexible
- Usable in interactive and closed mode
 - Automats/agents
 - Rule based
- Generic Behaviour Language (GBL) for the definition of situation related object rule sets by the user
- Reproducible results
- Data farming support

JASS • Technology features

JASS software has been designed and developed based on modern simulation system technology. The design features support the reusability of developed services during development and implementation.

The core of JASS is a simulation framework called DNS. DNS comprises services that control functions necessary to run simulations and services that support the development and implementation of simulation systems. DNS enforces the use of standardization principles and rules for the construction of services.

JASS provides services which easily allow:

- Preparation of scenario databases
- Giving orders to simulated forces,
- Getting C2 information via graphical user interfaces, e.g. situation information, messages, status report

A basic characteristic of JASS is the availability and usability of services which yield a reduction in the manpower necessary to run the simulations. These services are called command & control agents as well as behaviour agents. These agents are used interactively or in GBL-rulesets. In these rulesets the user specifies the conditions under which simulation objects use which agent to control its actions.

The processes modelled in JASS are neutral with respect to doctrines, forces structures, tasks, and operations. This yields high adaptability and flexibility for the use of JASS.

JASS is continuously in use and is continually improved.

JASS continues to be used by IABG in various studies to perform system analysis in military or non-military scenarios. Also, JASS is used by defence authorities in Switzerland and South Korea.

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