

## Kernel Controller:

The Kernel Controller server manages, maintain and delivers data to all the WASP3D clients across the network. It is the heart of WASP3D networked solution. The Kernel Controller also ensures the concurrent data is available to all Databuzz clients across the network.

The central database (MSSQL) provides data storage, management and synchronization data to all WASP3D client modules across the network.

The Kernel controller consists of Windows service components with an implementation of MSSQL server. The "WASP3D Kernel Controller" service in Windows hosts additional services as endpoints for providing multiple functionalities. These services are exposed using Microsoft's WCF technology and any new endpoint/functionality can be added to the system by using the Add-in architecture of the Kernel controller module.

## Default services hosted by Kernel controller:



- **Template Manager:** Manage template related storage, retrieval, search and archival. Templates are WASP3D design scenes stored centrally and accessible to all WASP3D modules through the network.



- **Favourites Manager:** A graphic artist can add graphical elements including objects (with animations, materials and textures), groups, tracks, etc. inside the WASP3D Drone Designer to Favourites Pool. All such elements can be re-used in same or different scenes through the Favourites Manager.



- **Playlist Manager:** This service manages the playlist and enables multiple users to work simultaneously on same playlist by enabling real time synchronization of data.



- **Instance Manager:** WASP3D maintains the template and data separately, thus the Instance Manager keeps track of different data instances of a template and their relation to each other.



- **Program Manager:** The Program Manager is a collection of playlists with each individual playlist maintaining an independent layer or Z-order. This service manages this relationship and the associated data.



- **UDT Manager:** User-Defined Tables (UDT) enables users to create simple relation tables without the need of programming. This simple interface allows users to define structured data and then be able to directly wire (i.e. link) this information to design elements.



- **Rights Management:** This service ascertains specific rights for different actions to be executed in different WASP3D modules.