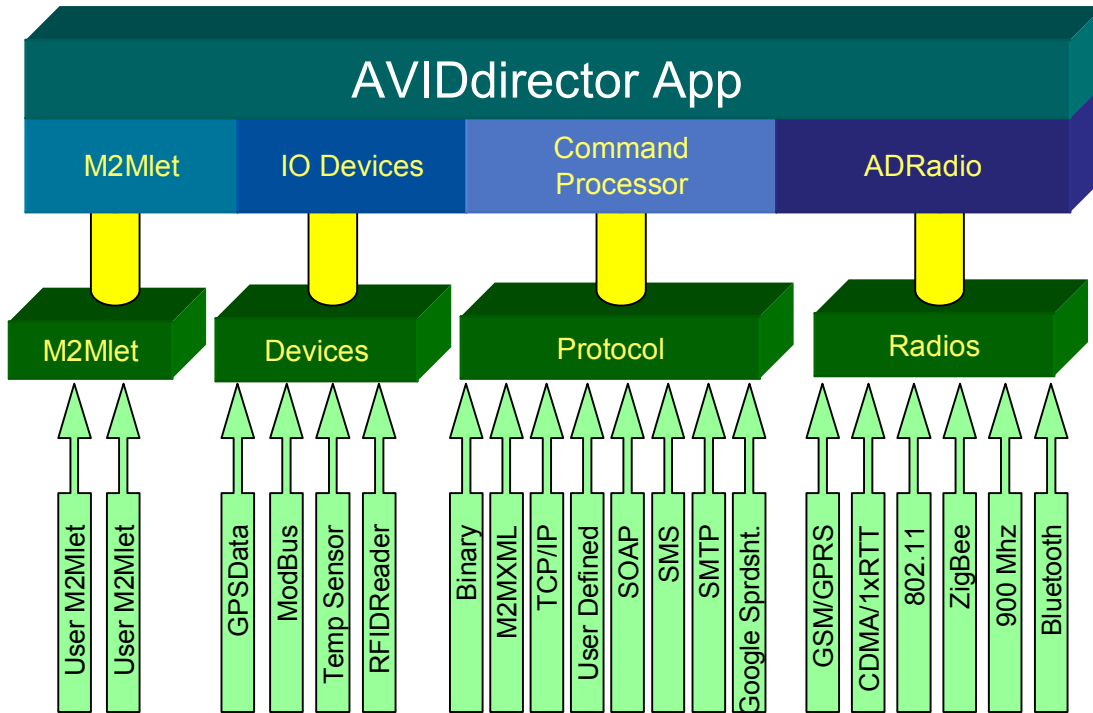


# AVIDdirector® AVIDM2MFramework™

*The Intelligence Behind AVIDdirector...*



## Making Rapid Deployment Possible

The AVIDdirector controller designed by AVIDwireless® includes the java based M2MApp Framework which allows rapid development and deployment of M2M solutions. M2MApp utilizes the M2MXML™ protocol for simplicity and interoperability. The framework provides all of the code necessary to support various forms of radios, sensors, I/O and devices. With this framework solution, your staff can spend time implementing a solution rather than writing and testing code to handle software communication between the sensors and your back-end.

M2MApp framework allows you to startup an application, load I/O devices, and configure all types of radios quickly and easily. A radio can be any type of modem that provides communication, such as cellular, satellite, Wi-Fi, etc. The M2MApp framework provides all of the code necessary to support these various forms of radios and provides the tools needed to get M2M applications to market quickly and efficiently.

## Features

- Java-based code with the M2Mlet class to develop custom applications
- Various radio programs to handle all types of communication
- Quick application startup with different protocols, if needed, for use with standard M2MXML
- Multiple configuration files that can be specifically customized for your application's needs
- Standard I/O classes to handle various sensors, such as AVIDwireless' smart wireless sensors or MODBUS

## Code

There are several command aliases set up in the M2MApp framework that execute on a UNIX-like shell. They also provide helper commands for easy access to M2MApp, a terminal emulator, and test programs. These commands help with testing and debugging custom applications.

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## Radios

The radio classes provided by the M2MApp framework save you vast amounts of time and money. Because development resources do not have to waste time writing and debugging code, different types of radios can start communicating immediately. The M2MApp framework lets you communicate with several radio types, including the following:

- Bluetooth
- CDMA
- Ethernet (Xport)
- GPRS
- GPS
- iDen
- 900 MHz (Aerocomm)
- Satellite
- Wi-Fi

## Protocols

The M2MApp framework communicates to multiple devices using M2MXML. This groundwork provides the foundation for various devices to communicate with each other through the framework. It also interfaces with I/O devices using various I/O protocols like MODBUS.

M2MXML is an XML language for machine-to-machine data acquisition, command, and control. It is an open standard hosted at M2MXML.org. One of the goals of M2MXML is to establish an open-standard that can be adopted by device manufacturers and M2M application developers, thus allowing interoperability. M2MXML is the AVIDdirector-M2M's base communications protocol, which is used to talk with AVIDwireless' own back-end portal, AVIDdashboard, and other vendors that have adopted the M2MXML protocol standard.

M2MApp also offers MODBUS support for I/O, including both the RTU Binary and ASCII formats for Serial and Ethernet, as a Master or Slave. The framework's MODBUS IODevice supports a subset of all the possible MODBUS commands and modes. Additional MODBUS commands and modes can easily be added to the protocol by adding to this portion of the framework or modifying the MODBUS IODevice to handle them.

## Configuration Files

The AVIDdirector's M2MApp framework contains configuration files that specify various parameters used by the AVIDdirector controller. This foundation provides the user with the ability to very quickly change the device's behavior without having to modify code or rewrite large portions of the application. You can start various radios and other I/O devices, instructing them how to function and interact with the remote system. The included configuration files can automatically establish connections and communication without additional code having to be developed.

Some of the more popular features of the configuration file allow you to change various options (like polling for readings, sending an M2MXML message with retries, etc.). These benefits are already built into the framework. You can automatically start multiple M2Mlets by simply specifying them in the M2MApp.ini configuration file.

## M2Mlets

M2Mlet is a class provided by the AVIDdirector M2MApp framework that allows you to customize an application for your specific needs. You can easily add new, customized logic for specific operations to run on top of the existing code. Development time for customized applications is minimal through the use of M2Mlets. Any Java developer can quickly utilize the sample M2Mlets provided to create their own applications that handle custom M2M needs.

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