

Source URL: https://www.emacinc.com/what-tini

## What is TINI?

The Tiny Internet Network Interface (TINI®), more properly referred to as the TINI® Runtime Environment, is a Java<sup>™</sup> runtime environment for developing network-aware applications for Maxim/Dallas IP-ready microcontrollers such as the DS80C400. As IP networks have become more pervasive, it is now necessary to network-enable embedded systems. However, network protocols tend to be complicated to code and require a lengthy test cycle. The TINI® runtime environment provides a full TCP IPv4/6 protocol stack verified for compliance to Internet standards. The network stack is driven by a multitasking operating system (TINI®-OS). Using the runtime environment and its built-in APIs, a developer can quickly write embedded applications that are network-aware.

## TINI<sup>®</sup> Features

I/O Interfaces	Support in TINI OS
RS-232 Serial	Up to 4
1-Wire	2
I2C	1
RS-485	1
SPI	1
CAN	1
Networking	
Full TCP/IP Stack	Yes
PPP	Yes
IPv4	Yes
IPv6	Yes
DAD	Yes
DN	Yes
UDP	Yes
IGMP	Yes
ICMP	Yes
STMP	Yes
DHCP	Yes
FTP	Yes
TELNET	Yes
НТТР	Yes
Java Features	
Processes	8
Threads	32
Serialization	Yes
Dynamic Class Loading	Yes
Reflection	Yes
Primitive Types	All
Native Methods	Assembly
IEEE 754 Floating Poin	tYes
All Packages	
Java API Version	JDK 1.4
java.lang	Yes
java.io	Yes
java.util	Yes

java.net	Yes
Javax.comm	Yes
TINI Development	

EMAC provides a Free Eclipse IDE featuring TiniAnt that is pre-integrated to provide everything the user needs for developing TINI applications. All the compiling, converting and downloading inherent to TINI development can be done from one easy to use high level interface. The distribution provides an SDK for the EMAC SoM-100ES and SoM-400EM which contains Java classes and source examples for the Interrupt Driven Keypad, LCD, Digital I/O ports, A/D, D/A, SPI, MMC, Modem, and One-Wire thermometer. It also comes with JavaKit pre-integrated, to provide an easy to use serial interface to the TINI OS. In addition two Web Servers are provided and integrated

into the Eclipse IDE, the free TINI Web Server and the full-featured Tynamo<sup>TM</sup> Web Server (tynamo.qindesign.com).

The Tynamo<sup>™</sup> server is a fast, conditionally compliant HTTP/1.1 server and Servlet 2.2 container for embedded Java platforms. Supporting such advanced features as basic authentication, persistent connections, and servlet reloading, it is an excellent tool for accessing and controlling your hardware via the Internet.

The EMAC Eclipse IDE is by far the most complete and best integrated development environment for the TINI and even features CVS version control support.

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