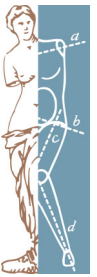




Device Management Framework



The web application server for embedded systems

The Device Management Framework (DMF) is the powerful way to create device management applications for embedded products. Now with version 2.1, you can deploy your applications as standards-based Web Services – with no additional programming.

The world's first application server designed for embedded systems is also the easiest way to develop applications for remote monitoring and control. Building on the DMF's flexible architecture, embedded product developers can quickly create device management applications for a variety of client types, including web browsers, SOAP clients, and XML-RPC clients.

More than just an embedded web server, the DMF includes many of the features you would expect in traditional web application servers (for example, PHP or ASP.NET). The DMF's ASP-style scripting language was designed for building cross-platform device management applications in small memory spaces.

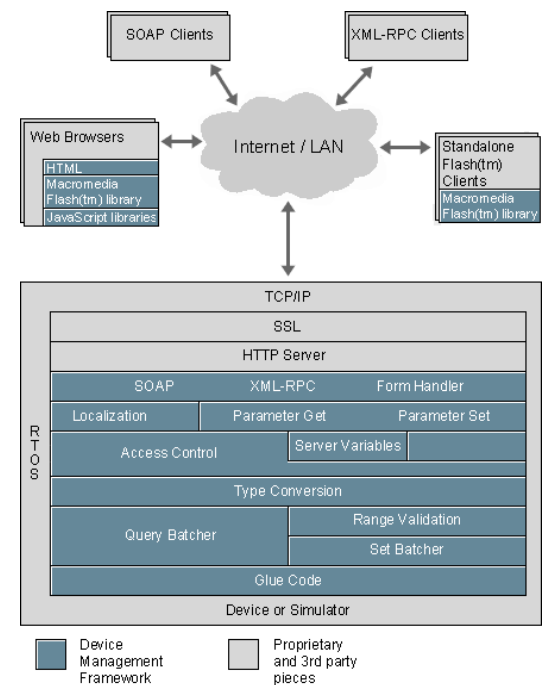
Capabilities like form handling, session management, and query batching do most of the hard work for you. Internationalization, error handling, and user collision handling are also built-in. You'll only spend time writing the code that makes your product unique – not the mundane plumbing which is common to all web applications.

The DMF runs on most embedded platforms and features an attractive, royalty-free source code license. Contact Art & Logic to discuss your project requirements and to receive an evaluation kit.

Painless Web Programming with DMF Embedded Scripting

Think of the DMF as a tiny web application server. In many ways it is similar to traditional web application servers like PHP or ColdFusion but, of course, it's *much* smaller. DMF Embedded Scripting is a lightweight ASP-style scripting language which is designed specifically for embedded device management. DMF Embedded Scripting allows HTML designers to work with standard web development tools without needing to know C. Because of this clean separation between device code and web code, firmware engineers and user interface developers can work in parallel, getting you to a finished product faster.

DMF Embedded Scripting includes all the features you would expect in a traditional web application server: user management, access control, session management, range validation, in-context error messages, user collision handling, cookie management, and much more.



Support for Multiple Clients and Client Types

The DMF's parameter access architecture allows a single API to support many kinds of clients without additional programming. Once you've connected your device parameters to the DMF's Parameter Tree, they can be accessed via HTML, SOAP, or XML-RPC. Using the programming language of your choice, you can create client software that manages multiple DMF-enabled devices from a single user interface. You can even expose the API to allow customers to add support for your device within their management system, all without updating the device code.



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Rich, Dynamic User Interfaces

Embedded product developers were once forced to stretch the boundaries of HTML and JavaScript to create dynamic user interfaces. Now, the DMF's multi-protocol support makes it possible to create arbitrarily complex user interfaces using new client-side technologies. For example, with the DMF's XML-RPC library for Macromedia Flash™, compact vector-based graphics can be connected to device parameters. This is ideal for interactive front panel displays, performance graphs, and alarm notifications. Flash™ Player scales smoothly to a wide range of screen sizes, making it trivial to support small-screen handheld displays. And, of course, the DMF fully supports older client-side technologies such as Java™.

Localization and Customization (for International Customers and OEM's)

Localization and customization are easy with the DMF, because all customizations are maintained within a single code base. You can develop web pages for multiple languages, including Asian languages which require multi-byte character sets. Or, provide special user interfaces for OEM's or related products within a product family. You can even allow users to select customizations (such as a different language) at run time. Adding a new language is as easy as adding an additional "language file" to the device. Field upgradeability lets you install new web code after the device is already deployed.

Device Simulation

Accelerate your product development cycle by developing your hardware, firmware, and web code (or other client code) concurrently. The DMF lets you simulate your device on any development platform, including Windows, Linux, and Mac OS X. Web developers can develop the user interface on their favorite desktop platform without having access to a live device.

Using a simulated device, your sales staff can demonstrate the user interface in situations where they do not have access to the hardware (perhaps even before the hardware has been developed).

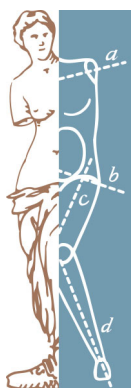


Security

- HTTP 1.0 basic encoding
- SSL (including OpenSSL)
- Digest Access Authentication (DAA)
- Up to 256 user levels
- Parameter-level, page-level, and subtree-level access control
- Session time limits

Requirements

- Currently ported to Embedded Linux, Linux, eCOS, VxWorks, QNX, Lynx, Windows, pSOS, uCOS, IRIX, HP-UX, Mac OS X
- Can be ported to any platform that has a C runtime library and a TCP/IP stack
- File system is optional



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About Art & Logic

Art & Logic, Inc. was established in 1991 to provide software development services to the engineering departments of high technology companies. Some of our clients are Hewlett-Packard, Motorola, Broadcom, Nortel Networks, and Apple Computer.

Art & Logic provides products and services for embedded systems, supporting a variety of platforms and technologies. We pioneered web-based management in 1996 with the development of one of the world's first web-based device management systems, allowing a standard web browser to be used to configure and monitor a hardware device.