

MEGARAC DS

A revolutionary Integrated Development Environment that includes powerful tools for server platform porting to integrate the latest generation of Service Processors. Structured as a set of CIM-compliant Eclipse Plug-ins, MegaRAC DS enables easy development and customization of the platform management structure and visual interface.

IDE for System Management Design

For more information: <http://ami.com/remote-management/development-studio>

MegaRAC DS supports the powerful, highly modular MegaRAC SP-X core, allowing developers to edit, debug, and test individual firmware modules. DS features a useful licensing model using highly efficient plug-ins allowing only a few, none, or all supported features to be selected. This means that firmware can be configured according to licensed features in the SP-X core on any given project. The DS licensing model is supported both at the source and binary-only level.

Web Design Plug-in

The Web Development Plugin (WDP) provides GUI tools to model web pages and sites, generating the related HTML, JavaScript and style sheet (CSS) code. WDP extends Eclipse views to create and navigate web projects, configure web components and their properties, select controls from a palette and report errors and warnings. A graphical Layout Editor is used for creating site layouts using nested levels and regions. The user can localize and translate the strings using popular translation tools like Google or Bing.

PMCP Plug-ins

The IPMI PDK plug-in provides a graphical environment for designing sensor layout in drag- and drop fashion using existing schematic information. OEMs can import devices from a repository or library into a workspace, and connect the device pins to mirror the device connections on the motherboard. From this device map, the software then creates corresponding sensor monitoring C code. Users can also create a binary image defining access to the different sensors connected to the BMC, virtually eliminating the

lengthy porting process.

PMCP Simulator Plug-in (Linux only)

Now developers can validate and finalize their sensor layouts even before actual hardware availability. Configured sensors for a particular target can be simulated to any user-assigned values (GUI-driven) at runtime and the system's response to the changes can be analyzed to help finalize the design.

CIM SDK Plug-in

The CIM SDK enables easy development of CMPI Providers through the CIM Class Explorer and Profile Explorer. Developers can pick the profiles they wish to implement, choose the required CIM Classes, define instances and generate the Provider code stub for the selected configuration in a single click.

The CIM SDK uses Machine Readable Profiles (MRP) as defined by DMTF. New management profiles can be defined as MRPs and easily imported. The CIM Class repository can also be updated at any time.

SMASH Plug-in

The SMASH plug-in provides all the elements to easily and quickly develop the SMASH-CLP configuration file using the SMASH editor and powerful wizards.

SVN-SPX Plug-in

This plug-in enables the user to cleanly and efficiently manipulate SP-X packages in a Subversion repository. Users can define package location in MDS using the



Subversion URL, check out the SP-X packages from a particular SVN revision or version, import and edit the package in MDS, then repack and commit the changes back to SVN. Users can also view the status of a package with SVN Head or a particular revision along with the differences between a local copy of the package and the latest revision of the package in SVN. The differences between the local and SVN package will be opened in the Compare Editor to compare and merge changes.

SP-X Project Configurator Plug-in (Linux only)

The SP-X Project Configurator allows the user to configure the stack dynamically in a modular fashion, by selecting the required features through checkboxes in a graphical menu. Different firmware flavors can be created from the same pool of available features, without touching a source file. All of the features in the SPX core exist as independent modules (called spx packages) that can be dynamically included or excluded from the firmware configuration. This allows for simple configuration of platform-specific information - extremely useful in a scenario where the same firmware code base needs to be supported on a range of different platforms.

The output of the SP-X Project Configurator is a project file (PRJ file) that includes the list of SP-X packages, in addition to related firmware configuration information for the project.

SP-X Builder Plug-in (Linux only)

The SP-X Builder plug-in provides a development environment based on a selected project file (PRJ file) to develop, build, and debug individual packages. It also allows building the final firmware image using the same IDE. It includes extensions for debugging support

(GDB based) and for accessing the debug console of the target. This plug-in enables work with binary only modules, customizing/adding platform-specific modules to create the final firmware.

SP-X Package Creator plug-in (Linux only)

The SP-X Package Creator plug-in facilitates the creation of the modular components of SP-X core, called spx packages. All types of spx packages can be created through its GUI-based environment.

Complete Set of MegaRAC DS Plug-Ins:

- *Web Development (WDP)*
- *PMCP*
- *CIM SDK*
- *SMASH*
- *XMS Studio*
- *SP-X Project Configurator*
- *SP-X Builder*
- *SP-X Package Creator*
- *SVN SP-X*
- *PMCP Simulator*

MegaRAC DS Highlights

- Supports complete embedded development together with debug and testing
- Powerful tool for graphical design of web pages and websites
- Web page generator automatically creates HTML and CSS style files
- Full localization support
- SMASH CLP configuration
- Easy graphical layout of platform sensors
- Easy integration of Platform Development Kit
- Sensor Virtualization

MegaRAC DS Plug-ins - Key Features and Functions

Web Development Plug-in

Project / File Creation Wizards (HTML, DOMAPI files)

Graphical Layout Editor (*.ilayout* extension) for creating site layouts

- Level: Horizontal division
- Region: Vertical Division

Page/Site layouts can use nested levels and regions

Palette / Property / Console Views

File component drawers (HTML, DOMAPI files)

Import Libraries

Import/Export webpages from existing project

String localization and translation with Google APIs

Project Validation

CIM SDK Plug-in

CMPI C Provider Development Tool

Provider Wizard

SMASH Configuration File Editor

CIM SDK Wizards

- CIM Class Explorer
- CIM Class Properties
- CIM Class Methods
- CIM Class Hierarchy

CIM Class Instances can be created using

Instance Editor

Uses DMTF Management Profiles

Profile Explorer and Profile File Wizard

SP-X Package Creator and Editor

Create and edit SP-X Packages

SMASH Plug-in

Configure SMASH CLP for a target CIMOM

SMASH CLP Configuration Editor

- Create new SMASH configuration file

Class Configuration

IPMI-PDK Plug-in

Easy-to-use GUI

Add /remove device to IPMI project by dragging and dropping

Device Description Files (DDFs) for adding DDF Editor

FRU Editor

Automatic SDR record creation

Command-line build option to generate:

- SDR record
- Sensor monitoring code
- Device configurations

PMC Simulator

Bit field editor for device configuration

Sensor Monitoring and Device Control

Information

GPIO Configuration

- Select between GPIO alternate functions
- Select direction of the GPIO
- Select which devices are connected to GPIO
- Select not to use a GPIO

Firmware Parameters Configuration Device

Support

- Add Micro-controller
- Add I2C Multiplexer
- Add I2C Controller
- Add Hardware Monitors (LM78, LM85, etc.)
- Add LEDs, LCDs, Voltage, Temperature sensors, Fans, etc.
- Create SDR Records
- Change Firmware Configuration
- Add FRU Information

PMCP Simulator Plugin

Simulate sensor values

Check Sensor Monitoring functionality

XMS Plugin

Flex Studio Project Management

- Localize Strings
- Define new languages
- Help Page generation

SP-X Project Configurator Plugin

Generate project file

- Project may include source or binary packages

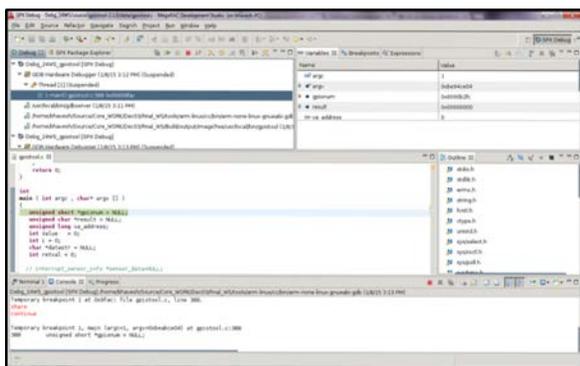
SP-X Builder Plugin

Build SP Firmware using Core binaries and customized components

- Build PMCP Project
- Build VWD Project
- Create ROM image

Run Time Type Information (RTTI) to reduce syntax error

- Integrated debugging
- Remote debugging



MegaRAC SP-X Builder Plug-in with Integrated Debugging

SVN-SP-X Plugin

Check SP-X Packages in/out from SVN

- Import package
- Update SP-X package
- View status of a package
- View package differences

Platform Development Kit

Integrate OEM commands

Implement platform specific actions:

- Blink LEDs
- Beep codes
- Toggle GPIOs, etc.

Override existing IPMI commands

Add drivers for OEM devices (LCDs, etc.)

Create interrupt handlers and associate them with a BMC interrupt pin

Customize hooks provided during BMC power-on to initialize OEM hardware



American Megatrends, Inc.
5555 Oakbrook Pkwy, Bldg. 200
Norcross, GA 30093
www.ami.com