



*Today's factory automation system environment is rapidly changing and FAMate is the most effective solution for the equipment host server development in Semiconductor/FPD Factory Automation.*

A red graphic element consisting of two overlapping, jagged shapes that resemble a stylized lightning bolt or a double-headed arrow, pointing towards the left.

# FAMate

**THE TRUE TOOL AUTOMATION SOLUTION  
FOR UPCOMING 300mm ERA**





## Introduction

FAMate is the Equipment Host Development Solution which enables fast and easy integration to the Manufacturing Execution System (MES) for semiconductor and FPD manufacturing factories.

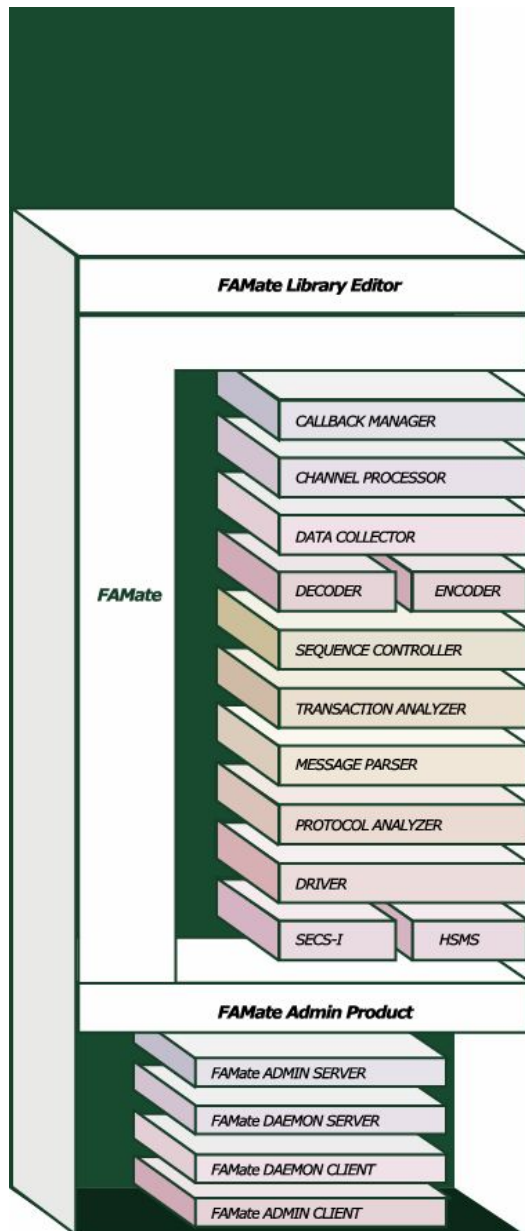
FAMate features component based interface for easy development environment.

FAMate minimized hard coding which helps to manage gigantic amount of data more effectively. FAMate separates business logic and data of equipment host.

Its components are designed to work as business logic executing applications by analyzing XML text data. FAMate is a new standard for Equipment Automation for Equipment Engineering System(EES).

- XML Based Component Development Methodology for Large and
- High Speed Protocol Communication.
- Operational Environment of Code-Business Logic independency with XML.
- Inline and Clustering Equipment Support.
- Fast Development Time by Standard Development Kit.
- User-friendly and Intuitive Development Environment.
- Development, Monitoring, and Maintenance via Internet.

## FAMate Modules



EAP : Equipment Application Process

Automation Components :

- MES(Manufacturing Execution System)
- AMHS(Automatic Material Handling System)
- EES (Equipment Engineering System)
- APC(Advanced Process Control)
- FDC(Fault Detection and Classification)
- OEE(Overall Equipment Effectiveness/Efficiency)
- RMS(Recipe Management System), etc



The true Tool Automation Solution  
for upcoming 300mm era

### ↳ Compact Design Architecture for Large Capacity and High Speed Communication

- Provide Hybrid Driver that XML and Components are Combined.
- Define XML Schema for SECS Protocol.
- Implement SECS-II Layer by Using Text-based XML Instead of a Component.
- Use Well Organized Multi-threaded Application Architecture.

### ↳ **Strong Reliability**

- Use XML to Define SECS and Business Logic.
- Separate Application and Business Logic to Form Simple Architecture.
- Offer Library Editor to Prevent Wrong Input by a Developer Completely.
- Support Administration Tool (FAMate Admin) Featuring Fail Over for No System Down.
- Present Proven Solutions by Many Reference Sites Including FDC and YMS Integration.

### ↳ **Fast Development Methodology for Reducing Ramp-up Time**

- Offer Minimized Hard Coding for Easy EAP Readability.
- Various Built-in Functions in FAMate Development Kit for Standard Development and
- Maintenance.
- Support Real Time Sending Message Restructuring and Setting Item Value.
- Feature Powerful and Flexible Data Collection.
- Provide Flexible and Convenient Integration with Various Automation Solutions.

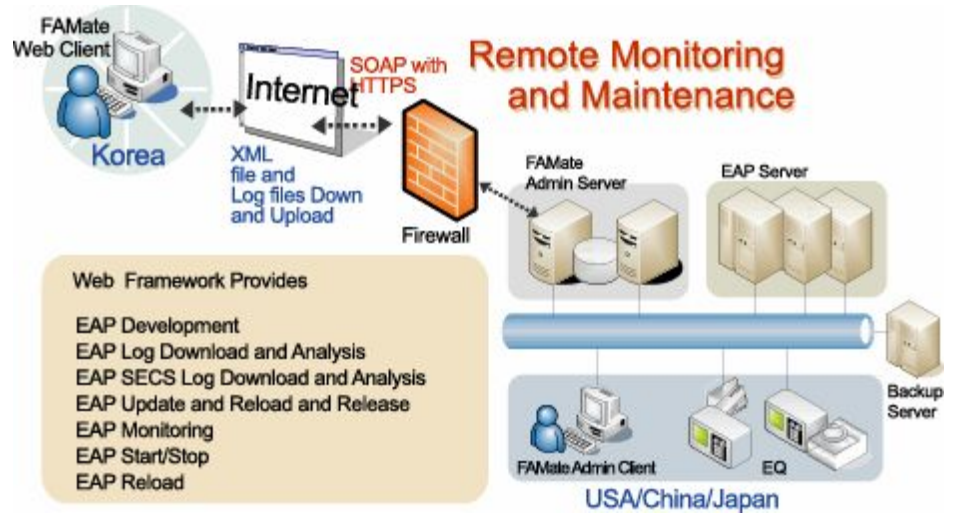
### ↳ **Convenient Remote(Internet) Control**

- Use Industry Standards.
- Monitor, Develop, Modify and Apply Through Internet.
- Enable Easy Accessibility from remote sites : EAP Upload, Download, Monitoring and Many More.

### **Available Protocols**

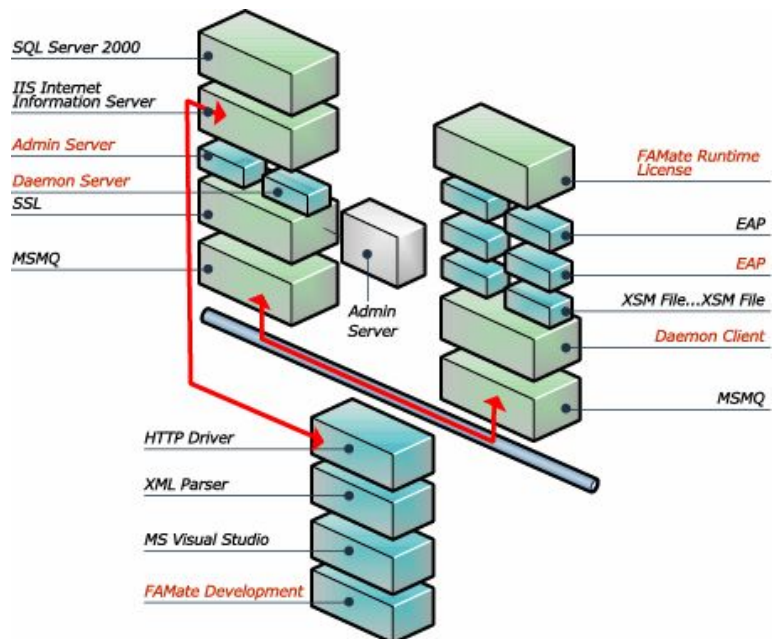
- E4-91 : SECS-I
- E54E-0698 : SECS-II
- E30-95 : GEM
- E37.1-95 : HSMS-SS
- W3C : SOAP

## FAMate Remote Control System (Internet)



## FAMate System Software Architecture

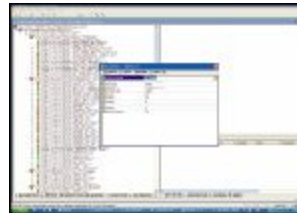
FAMate Installs Development License on Developer's PC to Build EAP and Uses FAMate Admin Server for Web Extension.



## FAMate Core Functions

### ↳ SECS Message Define

- Drag and Drop to Create SECS Library by Using SECS Log.
- Copy and Paste by Message.
- Enable/Disable Log by Message.
- Offer Various Objects-Properties to Remove Hard Coding.(Fixed ASCII , Left Trim , Right Trim , Prefix String , Subfix String , Use Token String, Use Array)
- Provide Standard SECS Message Library.



*SECS Message Define*

### ↳ Equipment Transaction Define

- Define Transaction Condition by One Item or Group of Items.
- Support Various Conditions and Define Priority.
- Able to Map Multi-message in One Transaction.
- Lock SECS Messages Used in Transactions to Prevent Unintended
- Modification for Data integrity.

### ↳ Equipment Communication Scenario Define

- Offer Define Method Same As Actual Equipment Process Flow
- Define Method.
- Interface Callback Function to Scenario.
- Lock Transactions and SECS Messages Used in Scenarios to
- Prevent Unintended Modification for Data integrity.

### ↳ Data Collection Define

- Generate Various Information Implemented on Development Kit.
- Identify User Defined Data Collection Structure.
- Able to Handle Complex and Large-sized Messages More Effectively.
- Instantiate Variable List and Item Notation.
- Support Various Component Properties for Data Format Conversion.

### ↳ Message Structure Define Between Equipments and Automation Components

- Offer Standard Data Conversion to Interface with Various
- Automation Components.
- Support Data Encoder and Decoder.
- Define Standard Callback Function Skeleton through Stub Generator.

#### ↳ **Virtual Test**

- Create Virtual Equipment by Using FAMate Library Editor
- with SECS-II Log.
- Support Diverse Virtual Scenario Setup and Test.
- Increase Actual Equipment Utilization Rate.

#### ↳ **Test Log**

- Offer Hex and SECS-II Log.
- Use SECS-II Log for SECS Message Define and Virtual Equipment Test.
- Support Various Developments and Managements Using a Log File.

#### ↳ **SECS Driver**

- Base on Large Capacity and High Speed Communication.
- Establish Late Component Creation Methodology for Easy
- User Programming.
- Support Real Time Send Message Restructuring and Setting
- Item Value.
- Implement Optimized Parsing.

#### ↳ **Server Resource Control and Monitoring**

- No Need to Use SMS (System Management System) for EAP
- Management.
- Manage EAP Server Machine Resources According to its Policy.
- (CPU, Disk and Memory)

#### ↳ **EAP Communication Trend Analysis**

- Analyze EAP Communication Trend and Generate Statistic

- Report by Using EAP Log Analyzer.
- (Packet In/Out and Utilization)

### ↘ EAP Server Management

- Able to Separate, Move and Manage EAPs to Meet the
- Requirements of Increasing Equipments and Systems.
- Support 100% EAP Running Environment.

### Target Markets

- Semiconductor and FPD Industries
- Semiconductor and FPD Related Tool Suppliers
- Automatic Material Handling System(AMHS) Interface
- PLC Control and Interface

### Installation Effects

- Collaborate Gigantic Data from Tools Being Transferred to Many Automation Components.
- Offer Various System Management and Fault-tolerant Function.
- Provide Rapid Ramp-up by Quickly Implementing Equipment Automation.
- Enable Accurate and Stable Production.
- Support Flexible Reaction for Any Operation Changes and Expansions.
- Minimize Time and Resources by Providing Standard Development and Maintenance.
- Require Minimum System Resources.
- Use Proven Leading-edge Technology for Future Expansion.
- Establish Development Environment for Zero Hard-coding.

