Nexplant MESplus MC

Machine Control

Collect Equipment Data and Control through Machine Connectivity

Realize Intelligent Factory by Implementing Optimal Equipment Engineering Infrastructure
based on Standardized Machine Interface, Collecting Real-time Data,
and Providing Remote Control Environment

Nexplant MESplus MC (Machine Connectivity)

Machine connectivity(Data Exchange, Equipment Control) is Essential for Smart Factory.
It enables to Connect High Speed, Large Volume Data Quickly and Organically through machine interface,
and Advance Manufacturing Execution(MES), Quality Management(QMS), and Equipment Engineering(EES)

Benefits

Collect and Utilize 6 major data of machine through standardization
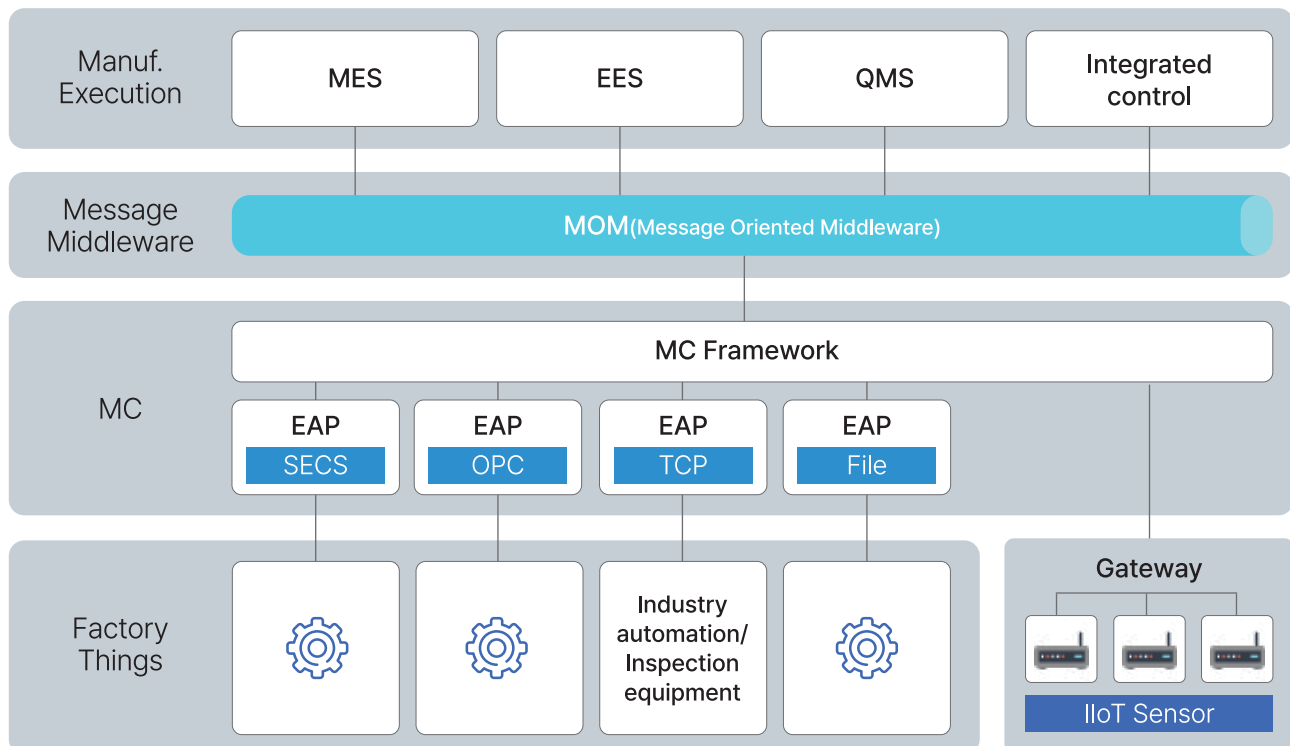(SECS/GEM, PLC, OPC, etc.)

Handle stable large volume data, collect real-time high speed data, and control connecting with MES/EES

Proceed quick setup and taking action at equipment failure based on modeling in case of operation/equipment change

Architecture

Providing machine connectivity framework supports communication protocols across various industrial sectors.
Also it manages various equipment simply and synthetically such as SECS/GEM (Communication Rule),
OPC (International Industry Standard Communication Rule), and TCP/IP

Manuf. Execution	MES	EES	QMS	Integrated control

Message Middleware	MOM(Message Oriented Middleware)

MC

MC Framework

EAP	EAP	EAP	EAP
SECS	OPC	TCP	File

Factory Things

Industry automation/ Inspection equipment

Gateway

IIoT Sensor

* MOM(Message Oriented Middleware) : Middleware for message exchange and event processing
* EAP(Equipment Automation Program) : Automated equipment application
* SECS(SEMI Equipment Communications Standard) : Semiconductor equipment communication standard protocol
* GEM(Generic Equipment Model) : General equipment communication standard protocol
* OPC(Open Platform Communication) : Industrial data communication standards
* 6 major equipment information: Status, Event, Alarm, Recipe, Process, Production

Features

01 Realize highly credible interface

Collect essential information (status, event, alarm, recipe, operation, production) through machine connectivity of various manufacturing companies, utilize data conversion and telecommunication technology, and connect with MES/EES/QMS efficiently. Using a communication modeler with an excellent GUI environment allows for the quick and easy definition of complex data transformation rules.
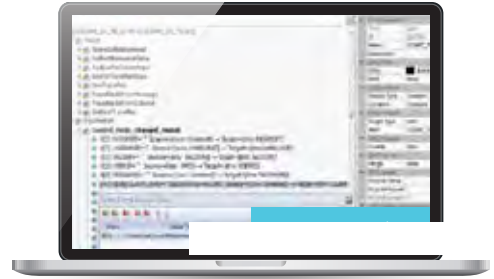
02 Provide operation efficiency and convenience through service integrated management

Using a visualized scenario modeler reduces the design time for scenarios (request and response processing), and the development of high-quality Agents is possible through pre-validation of programs using an interface simulator.

03 Support various industrial communication protocols

Connect with equipment that use various communication protocols such as SEMI standard (SECS-I, HSMS), TCP/IP and Telnet. It supports OPC UA/DA client for PLC equipment communication, connect with Message Middleware Solution such as Highway101, TIBCO RV, MQ, and minimize specific equipment modification/change

* SEMI(Semiconductor Equipment and Material Institute)
* SECS(SEMI Equipment Communications Standard)
* SECS-I(EMI Equipment Communications Standard 1 Message Transfer) :
  The RS-232C communication standard protocol for SECS-II data transmission.
* HSMS(High-Speed SECS Message Services) : The Ethernet communication standard protocol for SECS-II data transmission
* OPC UA(Open Platform Communication Unified Architecture) : Industrial data communication standard (Multi OS)
* OPC DA(Open Platform Communication Data Access) : Industrial data communication standard (Window OS)

References | Main Customers

High Tech

SK hynix SEMITECHKOREA Qcells JCET HANA MICION APACT Advanced Package & Test

DB HiTek ASE KOREA PI Advanced Materials POWERMASTER SEMICONDUCTOR E&G SHINSUN E&G WISOL

LB Semicon Infineon SiLTERRA® onsemi

Electric/Electronics

Hanwha Solutions FUJITSU Taihan FIBER OPTICS CORNING Autonics PJ ELECTRONICS

ILJIN Electric NAVIEN SIMMTECH® DAEDUCK

Rechargeable Battery

SAMSUNG SDI soulbrain KUMYANG Global Leader in Advanced Materials LOTTE ENERGY MATERIALS Dongwon Systems SEBANG SEBANG LITHIUM BATTERY CO.,LTD.

DOWOOINSYS VITZRO CELL

Automotive Component

HYUNDAI MOBIS HYUNDAI TRANSYS YURA songhyun KPF DN AUTOMOTIVE

Food and Beverage

SAMSUNG WELSTORY CJ CHEILJEDANG Samyang Foods DONGSUH JIPYEONG BREWERY

Pharmacy · Bio/Others

SAMSUNG MEDISON AEKYUNG Seegene COWELL wooriwa CR

JINSUNG T.E.C. KANC Korea Advanced Nano Fab Center CHUNGBUK TECHNOPARK NANO

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