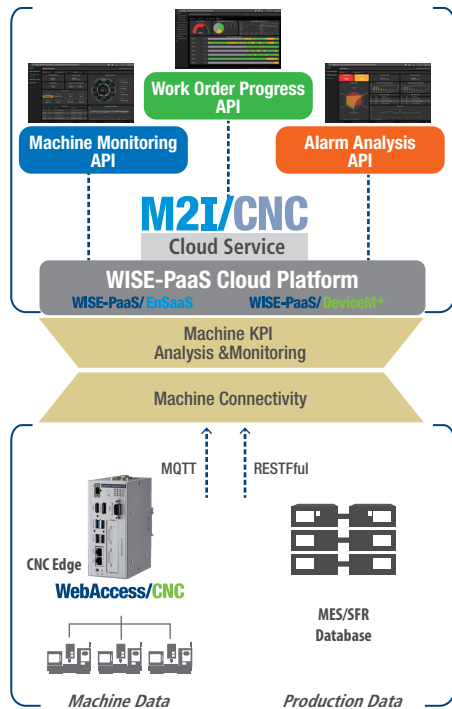


Intelligent CNC Machine Management Solution

- ☑ IoT Cloud Solution for CNC Machine Management
- ☑ CNC Machine Connectivity by CNC Edge
- ☑ Visualized Management by M2I/CNC Cloud Services

What is M2I/CNC Solution



Advantech's M2I/CNC solution consists of two SRPs - CNC Edge and M2I/CNC cloud service - provides comprehensive functions, including real-time machine monitoring, Overall Equipment Effectiveness (OEE) visualization, and performance and abnormality analysis. This solution enables users to rapidly and conveniently implement CNC machine management.

CNC Edge

CNC Edge serves as a data collector, connecting CNC machines via Ethernet to enable real-time data acquisition. Pre-installed WebAccess/CNC Runtime software supports direct communication with CNC controllers (including controllers produced by FANUC, SIEMENS, HEIDENHAIN and MITSUBISHI), which allows collected machine data to be transferred to the WISE-PaaS cloud platform for subsequent processing and analysis.

M2I/CNC Generic Cloud Service

M2I/CNC Generic Cloud Service is aimed at transforming field data into actionable performance insights that enable improved maintenance and operational optimization. The inclusion of preconfigured dashboard templates and an API library supports data visualization and 24/7 automated machine monitoring.

Key Features

Real-Time Machine Monitoring

- Machine status and distribution
- Work order progress
- Spindle feed override/ servo temperature monitoring

OEE Overview

- Visualized OEE indicators (availability, performance, quality)
- Machine efficiency ranking

Alarm and Abnormality Analysis

- Alarm occurrence and system downtime duration analysis
- Abnormality analysis and categorization for improved maintenance

Machine-to-Cloud Instantly

- Centralized cross-factory data management
- No maintenance effort for server room

M2I/CNC Solution Benefits

Identify production bottlenecks and improve productivity

- Diverse dashboards for visualizing machine operation distribution, trends, and ranking data
- Quantified KPIs are included to facilitate continuous improvements in productivity

Significantly reduce development time and costs

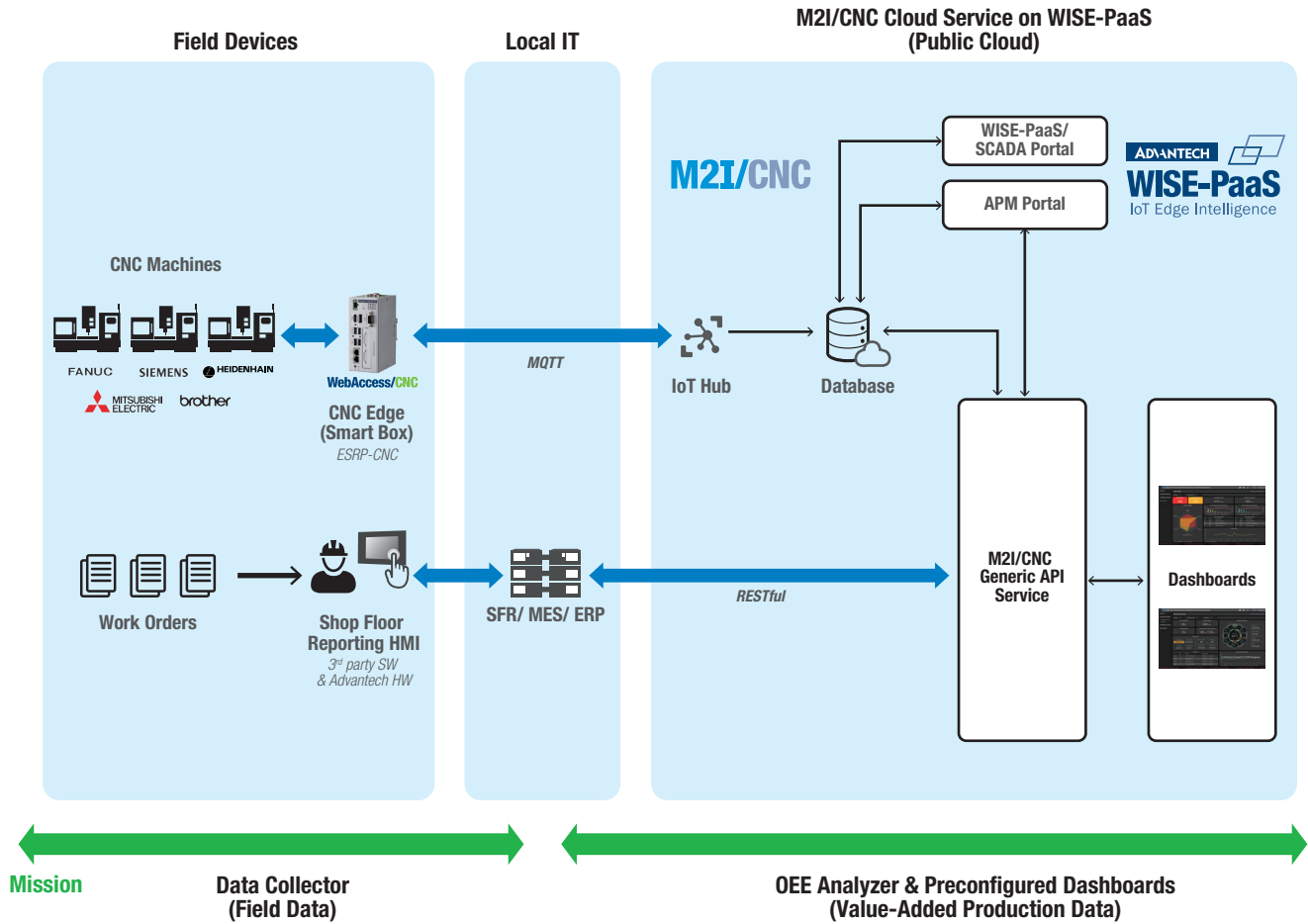
- Preconfigured dashboard templates and API libraries reduce development time by streamlining configuration and programming
- Centralized cloud-based data management eliminates server room maintenance

Stay ahead of the competition

- Realize a digital factory through equipment connectivity, data-based decision making, and data visualization to become an IoT leader
- Easier, faster in deliver applications in current automation projects

Intelligent CNC Machine Management Solution

System Architecture




Intelligent CNC Machine Management Solution

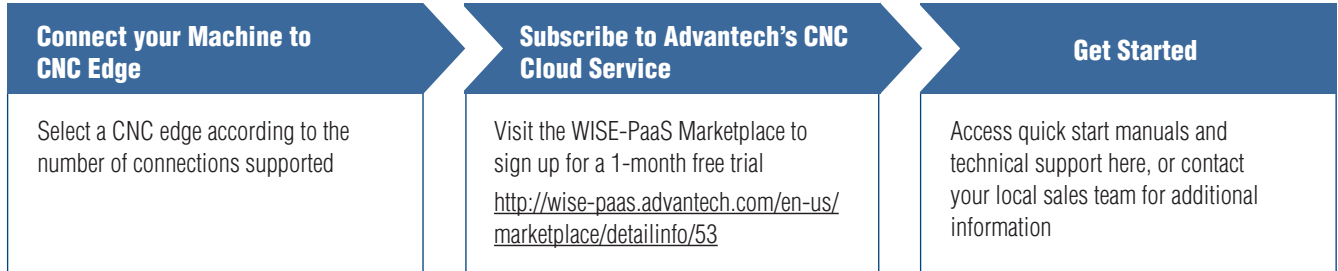
M2I/CNC Solution Specifications - M2I/CNC Generic Cloud Service

Solution Offerings	Description	
#1 SaaS (Software as a Service): M2I/CNC Generic Cloud Service	Preconfigured Dashboard Templates 100% Web-based dashboards with more than 50 panel styles for visualized machine KPIs and operation monitoring <ul style="list-style-type: none"> ▪ OEE visualization and analysis ▪ Real-time machine and operations monitoring ▪ Alarm summary and analysis 	M2I/CNC
	Machine Management Portal (APM Portal) An intuitive UI for easy configuration of machine and alarm groups <ul style="list-style-type: none"> ▪ Machine profile configuration ▪ Machine group configuration ▪ Alarm code list configuration 	
	M2I/CNC API Library More than 40 APIs allow users to build and scale custom applications with minimal coding <ul style="list-style-type: none"> ▪ Real-time machine info API ▪ Alarm analysis API ▪ Availability analysis API ▪ OEE API (A/P/Q) ▪ Work order info API ▪ Management scorecard API 	
#2 PaaS (Platform as a Service): WISE-PaaS/EnSaaS	WISE-PaaS/EnSaaS WISE-PaaS/EnSaaS is a cloud-based data platform designed to provide a highly secure, multi-tenancy architecture with automatic expansion for cloud services Associated PaaS Service M2I/CNC generic cloud service requires at least the following WISE-PaaS/EnSaaS resources to function correctly: <ul style="list-style-type: none"> ▪ 3 million IoT hub messages per month ▪ 4 GB app space memory ▪ 50 GB DB storage *Pay-as-you-go consumption fees apply for IoT hub messages, app space memory, and DB storage usage that exceeds the subscribed plan in a monthly billing cycle.	WISE-PaaS/ EnSaaS

M2I/CNC Solution Specifications - CNC Edge

Solution offering	Description	
#3 CNC Edge: ESRP-CNC-UN01372	System Configuration <ul style="list-style-type: none"> ▪ Intel® Celeron® J1900 2.0 GHz processor ▪ 4 GB DDR3L memory and 64 GB SSD storage ▪ Pre-installed Windows 10 Enterprise ▪ Pre-installed WebAccess/CNC, licensed for 5 CNC connections ▪ AC/DC power adapter 100 ~ 240 V 60W 24V ▪ US power cord, 1.8 M *Contact the PM for licensed connection upgrade Supported CNC Controllers <ul style="list-style-type: none"> ▪ FANUC: 0i-A/B/C/D/F, 16i, 18i, 21i, 31i, 32i (FOCAS library is required) ▪ MITSUBISHI: M700/M70, M800/M80 series ▪ HEIDENHAIN: iTNC530, iTNC640 (DNC option is required) ▪ SIEMENS: 840D, 828D (OPC/UA license is required) ▪ BROTHER: <ul style="list-style-type: none"> CNC-B00: TC-22B/31B/32BN/S2D/R2B/ 20B/S2DN CNC-C00: 300X1/S500X1/S700X1/ S1000X1/S500Z1/S700Z1/M140X1/M140X2/R450X1/R650X1/R450Z1 *Contact the PM regarding support for BROTHER controllers	 WebAccess/CNC

3 Steps for Implementing the M2I/CNC Solution



FAQ

1. How to get started with M2I/CNC solution? [Visit WISE-PaaS Marketplace](#)
2. Where can I find technical support documents?
For M2I/CNC Cloud Service, visit the Advantech [website](#).
For WISE-PaaS/EnSaaS, visit the [WISE-PaaS Knowledge Portal](#).
3. Where can I subscribe to M2I/CNC Cloud Service? [Find SOP](#)
4. How to apply trial account for WISE-PaaS? Contact your sales representative
5. How to order M2I/CNC Solution?
 - **CNC Edge:** Contact your sales representative
 - **M2I/CNC cloud service:** Visit the WISE-PaaS Marketplace and subscribe using WISE points. Users are charged monthly according to the number of machines configured on the cloud.