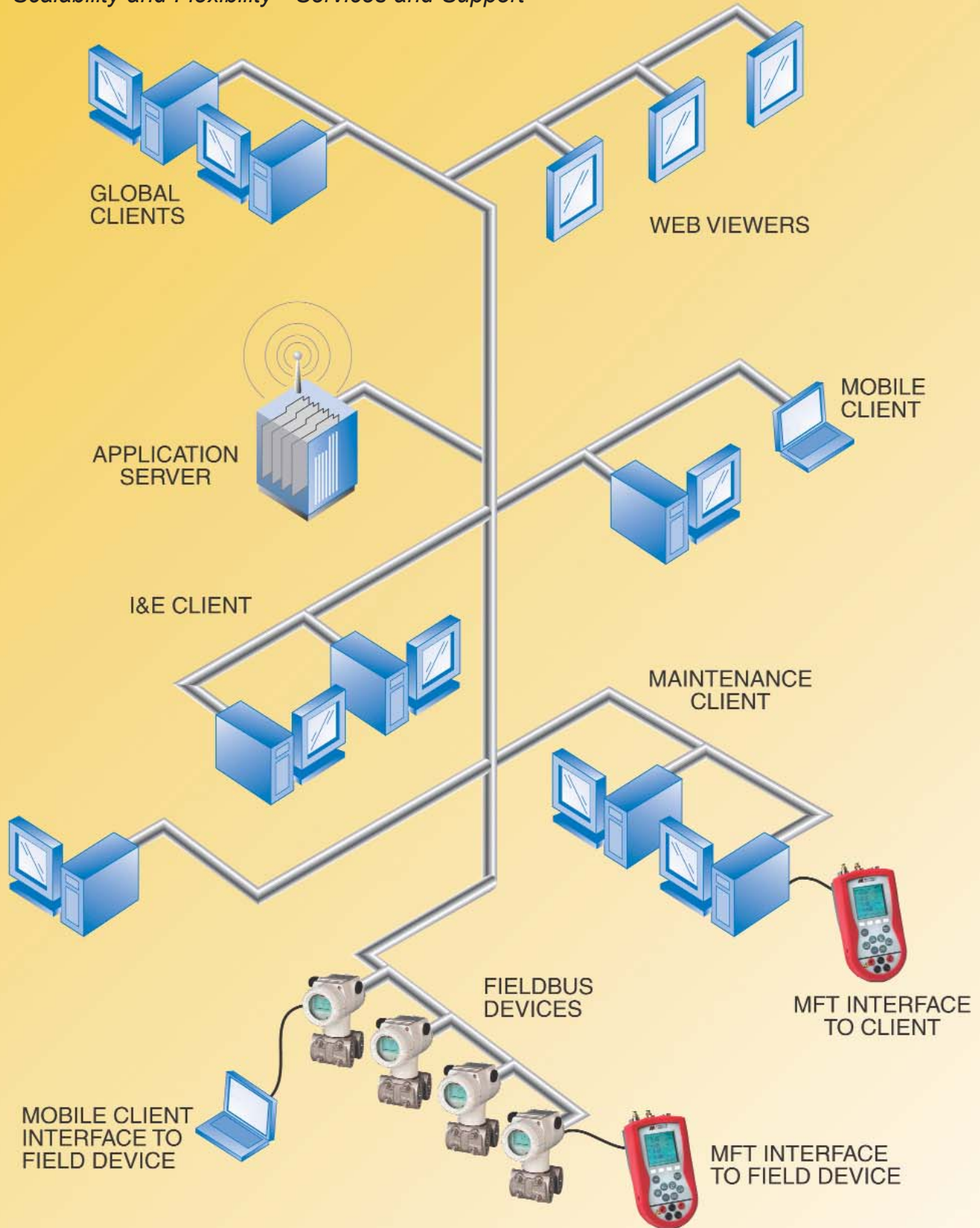


# Device Management System

Data Management • Calibration and Maintenance • Commissioning and Set-Up  
Enterprise Interface • Industry Standard Conformance • Certification and Qualification  
Scalability and Flexibility • Services and Support



# Data Management

## Device Management System (DMS) Software:

### Graphic User Interface

The DMS has an easy to use, Windows Explorer-like interface for quick navigation and organization of device data.

### Data Server

Powerful Microsoft SQL data server provides network access from client applications. This widely used database platform enables connectivity to other plant solutions.

### Associated Docs.

Provides links to relevant documents such as technical specifications, calibration certificates, standard operating procedures, and CAD documents. When selected, the documents open in their native application

### Activity Logging

Logging of activities related to a device such as alerts, configuration, calibration or any other action that impacts a device.

### Reporting/Queries

Standard reports, such as calibration certificates, activity log, and scheduled activities. The user can generate custom queries that can be printed or exported for use in other applications.

### Import/Export Utilities

Data can be imported via DMS generated templates for the initial population of the DMS database and for exchanging data with other applications.

The screenshot displays the DMS software interface. On the left is a tree view showing a hierarchy of folders: DMS Root, Plant, Areas, Block01, Block03, Meriam, Test Area, Log, Alerts, Search Results, Security, Users, Setup, Service Reasons, Models, System Parameters, and Online. The main area shows a table of device tags with columns: Tag, Description, Alias, Model, Last Calibrati..., Last Configur..., and Next Calib... The table lists several tags, including SPT11510, SPT11512, PT-600T1, 3144A, PT-WT01, PT-WS67, PT1151A, and 3095B. A 'Properties' window is open for tag PT-600T1, showing 'Device properties for tag: PT-600T1' and 'Configuration information for tag: PT-600T1'. The window has tabs for General, SIS Regulations, Configuration, and User Defined Data. The Configuration tab is active, showing a table of parameters and values. Below the parameters is a 'History' section with a table of 17 items, including dates and types like 'configuration' and 'calibration'. At the bottom right of the Properties window, there are 'OK' and 'Cancel' buttons.

Tag	Description	Alias	Model	Last Calibrati...	Last Configur...	Next Calib...
SPT11510	SPT11510		1151	07/17/02	07/02/02	07/26/02
SPT11512	SPT11512		1151	07/03/02	07/02/02	07/16/02
PT-600T1	PT-600T		600T	07/17/02	08/09/02 1.00...	10/15/02
3144A	3144A		3144 Temp	07/17/02	07/18/02	07/24/02
PT-WT01	PT-WT01		1151	07/25/02	07/25/02	10/23/02

Parameter	Value
Pres unit	mH2O @20C
URV	136.633 mH2O @20C
LRV	0.000 mH2O @20C
Damp	0.000 S
>ter Inctn	Linear
cut_linear %	10.000
Min span	0.664 kPa
USL	40.000 kPa
LSL	-40.000 kPa
PV Bias Unit Code	mH2O @20C
bias_pv_value	0.000
Up-Down Scale mode	Upscale
A0	0.000
A1	0.000
A2	-0.400
A3	0.000
A4	0.000
A5	0.000
dpcoeff_b2	0.000
dcocoeff_b1	0.000

Date	Type	Service	Admin	Disapproved
08/09/02	1 configuration			
08/06/02	configuration			
07/17/02	calibration			
07/16/02	calibration			
07/16/02	configuration			
07/10/02	calibration			
07/10/02	configuration	Routine Service	Admin	
07/10/02	calibration	Routine Service	Admin	Disapproved
07/10/02	calibration	Routine Service	Admin	
07/10/02	calibration	Routine Service	Admin	

## Documenting Process Calibrator (MFT-4000 Series)

### Documenting Calibration and Configuration Data

The Documenting Process Calibrator (DPC) reads and stores calibration test points, calibration results (As-Left/As-Found), configuration parameters and calibration reference standard information.

### Upload/Download Functions

Calibration Schedules (Action Lists) are generated by DMS and downloaded to the DPC for processing. Once the activities of the action list

are completed and documented by the DPC, the information is uploaded from the DPC to the DMS database. DMS tracks both work-in-progress and planned calibration and configuration activities.

### Communicator/Calibrator & Sensor Module Registration

The MFT and sensor modules are registered with the DMS. Every action performed is associated with the unique ID of the MFT and related sensor modules. The DMS tracks DPC sensor modules (internal, external, removable) to support the traceability and auditing functions of the DMS.

# Calibration And Maintenance

### Calibration Procedures

Calibration procedure details, such as methods for error calculation, number of test points, transposition equations, and pass/fail criteria can be developed and applied to devices individually or in groups. These procedures are maintained in a library for future use and editing.

### Scheduling/Planning

Calibration due dates can be assigned to devices, optimizing productivity through planning of calibration activities. Due dates can be assigned according to quality control, Safety Instrumented System ratings, or any other critical requirements. User definable pre-notice can be applied to alert users.

### Action Lists

An Action List is the tool that DMS uses to group multiple activities, which can be assigned to calibration and maintenance technicians. The Action List is downloaded to the MFT and acts as a "To-Do List" of activities. The Action List activities are tracked by DMS to ensure completion of assigned activities and prevent redundancy.

## Calibration And Maintenance

### Alerts/Alarms

Criticality settings based on, for instance, Safety Integrity Levels (SIL) can be assigned to a device. Other acceptance criteria can be established and assigned to a device. These settings are checked and used to notify administrators when acceptance criteria are not met. Devices under alarm or alert are listed in a separate folder for easy access and disposition.

### MFT Upload/Download of Action Lists

A key component in any calibration management solution is a documenting process calibrator. Action Lists that are downloaded to the MFT contain all the information necessary to perform activities on a device. The Action List serves as the itinerary for the maintenance technician and includes all relative calibration and/or configuration instructions. The progress and results of these activities are recorded and uploaded to the DMS so that the DMS maintains the latest activities performed on any device.

### Device Activity Log

Any activity that impacts a device is electronically stamped with date, time, user, description of activity, user ID and notes. Each device has its own log of associated activities.



### Version Manager

A Version Manager maintains versions of the DPC firmware, DMS software, calibration sensor module calibration dates, and Device Object Files (DOF's). This tool provides notices to the user regarding updates and provides a means for auditing and traceability for calibration standards.

### Preventive Maintenance

Utilization of the Action Lists and Scheduling features enable the development of a preventive maintenance plan based on manufacturers recommended calibration cycles, plant standard practices, or historical activity for a device.

## Commissioning And Set-Up



### Device Specific Cloning

New devices can be configured and installed by copying similar existing devices. The user can clone the device information from multiple sources; an off the shelf device, the DMS database, or the DMS library of standard devices.

### System Cloning

Copying of device information can be performed on a system basis as well. A system can be copied and used as a baseline for developing a similar system for a new division.

### Device Set-Up/Configuration

Commissioning of new devices can be accomplished by assigning the activity to an Action List for download to an MFT. Configuration data can be programmed into a device via on-line connections through a HART Modem or HART Multiplexer.

## Industry Standard Compliance

### FCINTF Specification Support

DMS uses ISA's FCINT interface specification for upload/download communication with Documenting Process Calibrators (DPC's). Many of the popular DPC's on the market support the ISA FCINTF specification.

### OPC Compliance

A future version of DMS will comply with OLE for Process Control (OPC) which will enable interface with Plant DCS software and other Enterprise applications. Consult factory for availability.

### Non-Proprietary

The DMS and MFT utilize a Device Object File (DOF) to communicate with specific smart devices. Although the DOF's technology is protected, full access to the technology is available through the DMS and MFT open interface architecture.

### 21 CFR Part 11

Certification for 21 CFR Part 11; Electronic Signature and Records Control is planned for completion in the near term. Consult factory for availability

### Plant Application Compatibility

The DMS application was developed using SQL server database, which has features that lend itself to supporting ODBC data exchange and functionality with other plant applications.

The DMS has export/import capabilities to support manual data exchange including features to map data between other popular device databases.

## Support And Services

### Training

On-Site or Manufacturer location training is available, in addition to the training that is offered through certified providers.

### On-Line Web Technical Support

Frequently Asked Questions and email is available to the user via the Internet, or in large installations via the customer's Intranet site. On-Line help is also available via the DMS software interface.

### Set-Up and Installation

Initial installation and system configuration is available through the manufacturer and approved integrators.

## Scalability & Flexibility

### Tag Capacity Scale-Up

The DMS tag capacity options are available that cover most applications. A Scale-Up option is available to add tag capacity as required.

### Client/User License Scale-Up

The DMS addresses various levels of client licenses for its baseline offerings and is scalable for an increase in total number of concurrent users.

### Upgradeability via Download Site

A download website enables users to update DMS software service packs, and DOF Library additions. A subscription to the download site is standard with the purchase of the DMS DNA Option, which supports on-line access to Smart devices.

### DMS Software Expansion

The DMS base software includes the majority of the calibration management features standard to the industry. Special "Plug-In" software applications can be seamlessly integrated to add major functionality for new applications, such as On-Line features to support connectivity to Device Networks. Consult factory for availability.

### Support for other Fieldbus Technologies

Initial versions of the MFT and DMS support HART Fieldbus Technology. However, these products will be extended to support most popular fieldbus technologies.

### Mobile Client

For more complicated projects that require a high-end Graphical User Interface than what is offered by the MFT, a Portable version of the DMS is available for remote applications that utilize a subset of the DMS database. The portable database is synchronized with the master DMS database at completion of the project.

The Mobile Client can be used offline, but is easily connected to the DMS via any LAN/WAN connection.

Meriam Process Technologies  
10920 Madison Ave., Cleveland, OH 44102  
www.meriam.com  
Phone: 800-817-7849 Fax: 216-281-0228

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