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Process Automation*

HOST PROFILE REGISTRATION PROCESS

By: Stephen Mitschke
Product Manager – Fieldbus Products

Jay McEvers
Product Support Specialist

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1 Purpose

The purpose of this plan is to document the process and procedures a host manufacturer must complete to advertise a host as FOUNDATION-registered.

2 Acronyms

The following acronyms are used throughout this process description.

Acronym	Meaning
HIST	Host Interoperability Support Test
SIM	System Integration and Maintenance Team
DD	Device Description
CF	Capabilities File

3 Requirements Terminology

The following keywords define requirements levels as defined in RFC 2119.

MUST	This word, or the terms "REQUIRED" or "SHALL", means that the definition is an absolute requirement of the specification.
MUST NOT	This phrase, or the phrase "SHALL NOT", means that the definition is an absolute prohibition of the specification.
SHOULD	This word, or the adjective "RECOMMENDED", means that there may exist valid reasons in particular circumstances to ignore a particular item, but the full implications must be understood and carefully weighed before choosing a different course.
SHOULD NOT	This phrase, or the phrase "NOT RECOMMENDED" means that there may exist valid reasons in particular circumstances when the particular behavior is acceptable or even useful, but the full implications should be understood and the case carefully weighed before implementing any behavior described with this label.
MAY	This word, or the adjective "OPTIONAL", means that an item is truly optional. One vendor may choose to include the item because a particular marketplace requires it or because the vendor feels that it enhances the product while another vendor may omit the same item. An implementation that does not include a particular option MUST be prepared to interoperate with another implementation that does include the option, though perhaps with reduced functionality. In the same vein an implementation that does include a particular option MUST be prepared to interoperate with another implementation that does not include the option (except, of course, for the feature the option provides.)

4 Background

4.1 History of the Host Interoperability Support Test (HIST)

The Host Profile Registration Process is an evolutionary replacement to Fieldbus Foundation's Host Interoperability Support Test (HIST). The existing HIST program is documented in

FF-569, Revision 1.2.

The Host Interoperability Support Test defines several sets of FOUNDATION™ specific features, such as “Setting a Device Tag” or “Configuring Function Blocks.” Each of these features has a series of test requirements that are used to demonstrate compliance to the feature. The host manufacturer is free to choose the features supported by the host application.

A host system demonstrates compliance to the feature by writing detailed test cases based on the original test requirements. These test cases are then executed with a series of FOUNDATION Registered field devices and witnessed by Fieldbus Foundation.

On completion of the Host Interoperability Support Test, the manufacturer is given a “Letter of Confirmation.” The Host Interoperability Support Test is not a registration program, and hosts completing the process are not eligible to use the Product Registration Symbol.

Fieldbus Foundation will discontinue the Host Interoperability Support Test Program on January 1, 2009.

4.2 Host Profiles

Fieldbus Foundation’s Technical Steering Committee (TSC) chartered the System Integration and Maintenance (SIM) Team to update the features defined in the Host Interoperability Support Test 1.2 and add profile requirements for host applications.

Each profile defines the minimum required features, optional features and prohibited features.

In addition, some features are assigned functional test requirements using a standardized test device. The standardized test device and functional test cases are part of FieldComm Group’s Host Test Kit.

The host profiles are integrated with the updated host features and released as FF-569 2.0, “Host Interoperability Support Test Profiles and Procedures.” This revised document serves as a basis for the Host Profile Registration Process.

5 FOUNDATION™ Host Profile Registration Policy

The use of the FOUNDATION Product Registration symbol in conjunction with a FOUNDATION-Registered Host is the manufacturer's representation that a sample of the product has successfully completed all requirements specified in FieldComm Group's Host Profile Registration Process.

The Host Registration Process defines a series of test protocols for a particular host profile. The test protocols may include one or more test campaigns that are performed by the manufacturer, an approved third party testing facility or FieldComm Group. FieldComm Group audits each host as it completes the process and permits those that conform the host profile registration policy to carry the FOUNDATION Product Registration Symbol. Placing the Product Registration Symbol on a host that has not completed the Host Profile Registration Process is a trademark violation.

The scope of the test protocols is summarized as a set of specification features. Those features trace back to test requirements approved by FieldComm Group's Technical Steering Committee (TSC). A device must pass all required test cases related to the feature. The list of registered features is identified on the Host Profile Registration Certificate.

6 Program Benefits

FieldComm Group shall grant the following benefits when the host under test successfully completes the Host Profile Registration Process.

6.1 Test Report

FieldComm Group shall issue a test report documenting the findings of the test administrator.

6.2 Product Registration Symbol

The Fieldbus Foundation shall grant the host manufacturer the right to use Product Registration Symbol subject to the marketing standards defined in FieldComm Group's Graphic Identify Standards Guide.



Figure 1. Product Registration Symbol

6.3 Registration Certificate

FieldComm Group shall issue the manufacturer a registration certificate documenting the host under test, profile and additional supported features. The certificate does not expire.

6.4 Web Catalog Registry

All FOUNDATION-Registered hosts that meet the current catalog requirements shall be listed in an online web catalog at <http://www.fieldbus.org>. FieldComm Group reserves the rights to change the requirements for listing in the online catalog.

7 Registration Requirements

The host manufacturer must fulfill the following requirements to meet the Host Profile Registration Policy.

7.1 Intellectual Property License

The manufacturer must license the necessary intellectual property of FieldComm Group.

7.2 Physical Layer Conformance

The manufacturer must submit a test report documenting conformance to FF-830 H1 Physical Layer Test Specification. All applicable test cases must result in a verdict of PASS. To show

proof of conformance, use FF-652 H1 Physical Layer Compliance Form from the current version of the registration kit.

7.3 H1 Stack Conformance

If the host supports H1 field devices, the manufacturer must submit a test report documenting stack conformance. H1 Stack conformance tests are performed by the Fraunhofer Institute and are described in the FF-523 H1 Stack Registration Process.

If a host supports H1 field devices through an HSE Linking Device, then the Linking Device must be FOUNDATION-registered.

All applicable test cases must result in a verdict of PASS.

7.4 Host Under Test Definition

The manufacturer must define the software and hardware components (the host under test) that collectively comply with the Host Profile Registration Policy. Software descriptions should list applicable modules and revision information that is visible to the end user. The registration certificate shall document the host under test definition.

7.5 Host Profile Declaration

The manufacturer must identify the profile(s) and additional optional features supported by the host under test. If a host supports multiple profiles, the manufacturer must document how the host switches between profiles. If a host supports multiple profiles that contain prohibited features, the host must document how the prohibited features are disabled in the appropriate profile.

7.6 Host Test Case Documentation

The manufacturer must submit detailed test case documentation defining the steps for complying with the host features for the given profile(s). These test cases should document step-by-step directions for meeting the test requirements using the host under test. The manufacturer shall use screen captures to illustrate the test cases. FieldComm Group must audit the host test case documentation against the procedures defined in FF-569.

7.7 Host Profile Test

The manufacturer must submit the host under test to execute the host test case documentation using a series of FOUNDATION-Registered devices and the standard Host Test Device from the Host Test Kit. All new host registration campaigns shall follow the Host Profile Test Campaign Procedures defined in Section 11. All applicable test cases must result in a verdict of PASS.

The manufacturer of an existing FOUNDATION-Registered Host may maintain the certificate by completing the Host Profile Self-Test and Audit Procedures as specified in Section 12. See Section 9 for eligibility.

A host under test must meet one of the following profiles.

Host Profiles	Last Eligible Test Date
Profile 61a, 62a, 63a, 64a	June 30, 2010
Profile 61b, 62b, 63b, 64b	November 30, 2015
Profile 61c, 62c, 63c, 64c	Not Specified

Last eligible test dates do not apply to a host maintaining an existing registration certificate by completing a Host Profile Self-Test. The host must still meet all requirements as specified in section 9.2.

8 Registration Certificate Compliance

The Host Profile Registration Certificate is valid for the host identified on the certificate. A host manufacturer that makes modifications to the host must maintain the certificate to continue to use the Product Registration Symbol and advertise the host as FOUNDATION-Registered.

The manufacturer maintains the certificate by updating the registration requirements specified in section 7. A host may qualify for the Host Profile Self-Test and Audit as defined in Section 9.

9 Host Profile Self-Test and Audit

The Host Profile Self-Test and Audit allows a manufacturer to maintain the registration certificate through the completion of a self-test audited by FieldComm Group.

9.1 Overview

This procedure is available to manufacturers that have updated the host but have not affected its compliance to the requirements and documentation specified in Section 7.

For example, a manufacturer registers host version 1. The manufacturer then updates the software to version 1.1; however, the software updates do not affect the implementation of the host features documented in the registration certificate.

In this case, the manufacturer can execute the Host Profile Self-Test using existing host test cases from the prior Host Profile Test Campaign and provide a compliance report for audit by FieldComm Group.

9.2 Qualifications

To qualify for the Host Profile Self-Test, the host under test must meet all of the following requirements.

- Only an existing FOUNDATION-Registered Hosts may qualify for the Host Profile Self-Test. Existing hosts that have only tested against FF-569 1.x "HIST" shall not qualify.
- The host under test should use the unmodified host test cases (Section 7.6) from the original Host Profile Test Campaign. Any test case modification must be functionally equivalent to the original test case.²

- The host under test cannot remove any host feature(s) ¹ documented in the current registration certificate.
- The host under test cannot add new host feature(s) ¹ to the registration certificate.
- The host under test cannot change profiles.
- A host under test cannot remove supported blocks from the “Standard Function Block” feature list. However, a host under test may add support for additional standard function blocks under a Host Profile Self-Test.
- The host manufacturer must utilize an approved release of the Host Test Kit to perform the self-test. This must be the same version or greater than the one used for the original test campaign
- The host under test must have been registered using a Host Profile Test Campaign witnessed by FieldComm Group within the past three years.

For example, if the host was registered on January 1, 2008 using a Host Profile Test Campaign, then it may qualify for the Host Profile Self-Test and Audit from January 1, 2008 through December 31, 2010. Starting January 1, 2011, the host would no longer be eligible for a Host Profile Self-Test to maintain the certificate without first completing a new Host Profile Test Campaign.

Notes:

1. Host features refer to the features defined in FF-569, section 2.2.
2. For example, the host user interface changes the text on a button that is explicitly referenced by the original test cases, but the modified text does not change the original behavior.

10 Host Profile Rebranding Self-Test and Audit

The Host Profile Rebranding Self-Test Campaign and Audit allows a host manufacturer to rebrand a previously tested host in order to customize it for a specific market segment or geographical region.

10.1 Overview

Rebranding occurs when the same manufacturer provides an existing registered host profile under a new brand. The original host must be a registered product. This procedure is available to manufacturers that have rebranded the host and made minor changes to reflect market needs without affecting its compliance to the requirements and documentation specified in Section 7.

For example, a manufacturer registers a class 61b host profile. The manufacturer then rebrands the host with a different brand name, model name or revision number. The host may have fewer host components, however none of the changes affects the implementation of the host features documented in the original host registration certificate and demonstrated in the original witnessed host test campaign.

10.2 Qualifications

To qualify for Host Profile Rebranding, the host under test shall meet all requirements specified in 9.2 and the following requirement:

- The host under test must not have modified communication stack(s) or physical layer(s) when compared to the originally tested host profile.

11 Host Profile Test Campaign Procedures

The following procedures define how FieldComm Group shall execute the Host Profile Test Campaign to verify the manufacturer has met all program requirements.

11.1 Payment

The manufacturer must secure payment for the estimated test fees with a credit card or purchase order. See Section 15 for fee information.

11.2 Campaign Request Form

The manufacturer must complete the Host Profile Test Campaign Request form (FF-949). This form shall specify a test campaign date. FieldComm Group shall contact the manufacturer to finalize the actual campaign date. Campaigns may be executed on-site or at FieldComm Group in Austin, Texas, USA.

11.3 Testing Agreements

The manufacturer must complete and return the Host Profile Test Service Agreement prior to the execution of a test campaign. The reception of the test agreement shall indicate the official start of a test campaign.

11.4 Documentation

The manufacturer must complete all documentation specified in section 7 and submit to FieldComm Group for review.

11.5 Documentation Review

FieldComm Group shall audit the test case documentation to verify that the host system meets the feature requirements specified in FF-569. FieldComm Group shall notify the manufacturer of the audit results. The manufacturer is responsible for resolving outstanding comments before the execution of a test campaign.

11.6 Campaign Execution

FieldComm Group shall identify a diverse set of FOUNDATION-Registered devices with Device Description and Capability Files. FieldComm Group shall notify the manufacturer of the devices used prior to the execution of the test campaign. Only FOUNDATION-Registered and the Standard Test Device from the Host Test Kit shall be used during a test campaign. If a registered device has been shown to be inconsistent with the FOUNDATION specification, it shall be ineligible for use.

FieldComm Group shall witness the execution of the test cases against the host under test. FieldComm Group shall use bus monitors to verify the host under test executes the host test cases. On completion of a test campaign, FieldComm Group shall issue a report to the manufacturer detailing the findings during the campaign execution.

11.7 Final Audit

FieldComm Group shall complete an audit for all requirements specified in Section 7. A host system that meets all requirements shall receive the benefits outlined in Section 6.

12 Host Profile Self-Test and Audit Procedures

A registration certificate granted to a host defines a specific version of software and hardware documented during a test campaign.

However, host system software is often subject to patches, service packs or other software maintenance. Often times, these patches may not be related to the FOUNDATION specific features covered by the Host Profile Registration Process.

As a result, the Host Registration Process permits a manufacturer to complete a Host Profile Self-Test and submit documentation to FieldComm Group for audit. After a successful report audit, FieldComm Group shall issue the manufacturer a new certificate documenting the updated registration information.

A manufacturer must have a current license to the Host Test Kit to complete the Host Profile Self-Test.

12.1 Payment

The manufacturer must secure payment for the estimated test fees with a credit card or purchase order. See Section 15 for fee information.

12.2 Host Profile Self-Test Request Form

The manufacturer must complete the Host Profile Registration Request form (FF-949). FieldComm Group shall contact the manufacturer to discuss the timing for the audit review.

12.3 Host Profile Self-Test Compliance Statement

The manufacturer must complete a Host Profile Self-Test Compliance Statement (FF-950) to affirm the modified host is eligible for a Host Profile Self-Test.

12.4 Self-Test Report Documentation

The manufacturer shall execute the original, Foundation-approved Host Profile Test plan on the host utilizing the set of original devices and the latest version of the Host Test Kit. The manufacturer is expected to use the same test case procedures that were documented in the original test plan. Any test case procedures that must be modified to properly execute the test case on the updated host must be added below the original approved procedures and clearly noted with reasons why the procedure is different. Screen shots should be included if necessary to show the differences between the original procedure and the new one.

The host manufacturer shall submit the newly executed test plan and results documentation to FieldComm Group on the successful completion of the self-test of the host test cases (Section 7.6). The documentation shall include test setup, devices, and actual test results. The manufacturer shall document any discrepancies.

12.5 Documentation Audit

FieldComm Group shall audit the test report against the test cases and compare to the existing test report on file. On completion of the documentation audit, FieldComm Group shall issue an updated registration certificate to the manufacturer.

13 Host Profile Rebranding Self-Test and Audit Procedures

A registration certificate granted to a host defines a specific version of software and hardware documented during a test campaign.

A rebranded host may use different brand names, model names and version numbers than the originally tested host profile. Often times, the differences between an original host profile and a rebranded host profile may be unrelated to the FOUNDATION specific features covered by the Host Profile Registration Process.

As a result, the Host Registration Process permits a manufacturer to complete a Host Profile Rebranding Self-Test and submit documentation to FieldComm Group for approval. Once the Self-Test documentation has been approved, FieldComm Group shall witness a sub-set of tests during a live audit as described in section 13.6. After a successful live audit, FieldComm Group shall issue the manufacturer a new certificate documenting the registration information of the rebranded host profile.

A manufacturer shall have a current license to the Host Test Kit to complete the Host Profile Rebranding Self-Test and Audit process.

13.1 Payment

The manufacturer must secure payment for the estimated test fees with a credit card or purchase order. See Section 15 for fee information.

13.2 Host Profile Rebranding Request

The manufacturer must complete the Host Profile Registration Request form (FF-949) with rebranding information. FieldComm Group shall contact the manufacturer to discuss the timing for the audit review.

13.3 Host Profile Rebranding Compliance Statement

The manufacturer shall complete a Host Profile Self-Test Compliance Statement (FF-950) to affirm the host is eligible to be a Rebranded Host Profile.

13.4 Self-Test Report Documentation

The manufacturer shall execute the Self-Test as specified in 12.4 for the rebranded host using the original host test case documentation of the originally witnessed and registered host.

13.5 Documentation Audit

FieldComm Group shall conduct the audit as specified in 12.5.

13.6 Live Audit

The manufacturer shall demonstrate a subset of tests from the self-test report to FieldComm Group. FieldComm Group shall provide the manufacturer with a list of tests prior to the demonstration. The demonstration shall be performed on-site, or otherwise arranged to be performed remotely using web conference services (e.g. WebEx, GoToMeeting, LogMeIn) by the host manufacturer.

On successful completion of the live audit, FieldComm Group shall issue a registration certificate to the host manufacturer.

14 Marketing Standards

FieldComm Group's Graphic Identity Style Guide specifies all marketing standards including guidance for using the Product Registration Symbol. Contact FieldComm Group at member.services@fieldbus.org for copies of this guide.

15 Fees

There are two fees associated with fulfilling the Host Profile Registration Process. The first fee relates to the actual testing of the host and audit of the process requirements. The second fee relates to the issuance of a new or updated registration certificate.

FieldComm Group publishes all current testing and registration fees on a website at <http://www.fieldbus.org/services>

15.1 Testing Fees

15.1.1 Host Profile Test Campaign Fee

The Host Profile Test Campaign Fee applies to a host manufacturer submitting a host for test by FieldComm Group. The campaign fee includes review of the initial host test procedures, execution of the test campaign and issuance of a test report.

On-site host test campaigns are also subject to travel and expense fees for the test administrator. Travel and expense fees do not apply for test campaigns executed at FieldComm Group offices

15.1.2 Host Profile Self-Test Audit Fee

The Host Profile Self-Test Audit fee applies to a host manufacturer submitting a self-test report for an updated host registration certificate.

15.1.3 Host Profile Rebranding Self-Test Audit Fee

The Host Profile Rebranding Audit fee applies to a host manufacturer submitting a rebranded host of an existing registered host for a new host registration certificate.

On-site host test campaigns are also subject to travel and expense fees for the test administrator. Travel and expense fees do not apply for test campaigns executed at FieldComm Group offices or using web conferencing services.

15.2 Registration Certificate Fees

15.2.1 Host Profile Registration Certificate Fee

The Host Profile Registration Certificate fee applies to all new host applications that complete the Host Profile Registration Process or Host Profile Rebranding Campaign.

15.2.2 Host Profile Re-registration Certificate Update Fee

The Host Profile Re-registration Certificate Update fee applies to an existing FOUNDATION-Registered Host that successfully completes a Host Profile Test Campaign or Host Profile Self-Test Audit.

16 Host Registration Process Revisions

Prior to issuing a registration, FieldComm Group Technical Steering Committee must formally approve the Host Interoperability Support Test Profile and Procedures (FF-569) and the Host Test Kit Test Purposes defined in the Host Test Kit. (AT-480)

After each major revision of the Host Profile Registration Process, no hosts shall be registered to a given profile until at least two hosts, developed by different manufacturers, have successfully completed the requirements for that profile.

In the event that only one host successfully completes the test requirements for a given profile and no second host successfully completes the testing against the same profile within six months, FieldComm Group shall contact the Technical Steering Committee for further action.

No optional feature shall be listed on a registration certificate until at least two hosts, developed by different manufacturers, have successfully completed the requirements for that feature. Two hosts supporting different profiles may implement the optional features. After the optional feature is approved for registration, FieldComm Group shall issue updated certificates and update the web catalog registry.

17 Host Profile Revision Policy

The Host Interoperability Support Test Profile and Procedures (FF-569) defines requirements for host profiles. For a given profile, each feature is defined as mandatory, optional or prohibited.

As Foundation technology evolves, features may be added to a new or existing profile. These features may be added as mandatory, optional or prohibited. Updated profiles are published as new versions of FF-569.

When a profile with new mandatory features is published, it shall be mandatory for new registration 24 months after the release of the profile specification.

Section 7.7 defines the dates when a profile shall become mandatory for new registrations.

18 Document History

Revision	Notes	Editor
1.0	Initial Document Release	S. Mitschke
1.1	Updated link to the fee schedule to www.fieldbus.org/services	J. McEvers
1.2	Updated Catalog Requirements (6.4) Clarified Self Test Requirements (11.4) Added Host Profile Revision Policy (New 15)	S. Mitschke
1.21	Clarified requirement for H1 PHY conformance and added document number FF-652 name to the process so host vendors know what that document is for in their registration kit. Only changed one line in section 7.	J. McEvers
1.3	Added Host Profile Rebranding Process and Procedures (10,13) Updated host profile eligibility (7.7)	J. McEvers
1.31	Updated document to reflect new company name where applicable. Added FieldComm Group logo to the top of the document.	J. McEvers