



Mobile Proof Testing



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Chapter 1

Mobile Proof Testing

Topics:

- [Overview of the Mobile Proof Testing Module](#)
- [Mobile Proof Testing Workflow](#)
- [About Mobile Proof Tests](#)
- [About Synchronizing Mobile Proof Tests](#)
- [Access the Mobile Proof Testing Page](#)
- [Access a Proof Test in Offline Mode](#)
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Overview of the Mobile Proof Testing Module

The Mobile Proof Testing module allows you to manage Proof Tests without a network connection. Mobile proof testing enables the maintenance personnel to be offline (i.e., not connected to GE Digital APM), and still execute test procedures and collect proof testing data using mobile devices such as a tablet. The Proof Test Data is synchronized automatically to the SIS Management module when you are online (i.e., connected to the GE Digital APM).

Mobile Proof Testing Workflow


This workflow provides the basic, high-level steps for using this module. The steps and links in this workflow do not necessarily reference every possible procedure.

1. Download a Proof Test Task for offline access.
2. [Record the Proof Test Details for the Proof Test.](#)
3. [Create a Recommendation.](#) You can also [attach an image to the Recommendation.](#)

The values that you recorded in the Proof Tests when you were offline are [synchronized automatically](#) to the GE Digital APM database when you reconnect the mobile device to the network.



About Mobile Proof Tests




You can use Mobile Proof Testing on the GE Digital APM mobile application to run test procedures and collect proof testing data using mobile devices, such as a tablet. You can [record values for the Proof Test](#) and [create recommendations](#) (e.g., a maintenance follow-up) for the proof test, directly from the mobile device even if the mobile device is disconnected from the network.

When you download a Proof Test Task for offline access, on the **Mobile Proof Testing** page, the  icon appears on the downloaded Proof Test Task, indicating that the Proof Test Task is downloaded to the mobile device that you will use for recording values for the Proof Test.

About Synchronizing Mobile Proof Tests

When you reconnect the mobile device to the network, the values that you recorded in the Proof Tests and the Recommendations that you created are uploaded automatically to the GE Digital APM database.

The color of the  icon that appears on the upper-right corner of the Proof Test in the **Mobile Proof Testing** page, indicates the status of synchronization. The  icon changes to one of the following:

-  : Indicates that the synchronization is completed successfully. The values that you recorded in the Proof Test and the associated Recommendations are uploaded to the database.
-  : Indicates that the synchronization failed. When you select , a message appears, describing the error that has caused the synchronization to fail. The error may be either in the Proof Test or in the Recommendation.

On successful synchronization, GE Digital APM copies the values in the Proof Tests that you executed in the mobile device to the corresponding Proof Tests in the database. You can access these Proof Tests from the SIS Management module.

GE Digital APM system creates copies of the Recommendations that you created in the mobile device, and then links them to the Instrumented Functions with which the Proof Test Tasks are associated. The images attached to the Recommendations that you created for the Proof Test appear as Reference Documents in the Recommendations created for the Instrumented Function.

Tip: For more information, refer to the [Manage Reference Documents](#) section of the Record Manager module for additional options when working with reference documents.

Access the Mobile Proof Testing Page

This topic describes how to access the Mobile Proof Testing page, also known as the Offline Store. The Mobile Proof Testing page contains the list of Proof Test Tasks that you downloaded for offline use.

Before You Begin

- Download a Proof Test Task for offline access.

Note: Downloaded Proof Test Tasks are stored in the device's internal storage.

Procedure

In the **Applications** menu, navigate to the **INTEGRITY** section, and then select **Mobile Proof Testing**. The **Mobile Proof Testing** page appears, displaying the list of proof test tasks that you downloaded.

Access a Proof Test in Offline Mode

Before You Begin

- Download a Proof Test Task for offline access.

Procedure


1. [Access the Mobile Proof Testing page](#).
2. Select the Proof Test Task that you want to view.
The **Proof Test** workspace appears, displaying the datasheet for the selected Proof Test. The left pane contains a list proof test details associated with the Proof Test.

Access a Proof Test Recommendation in Offline Mode

Before You Begin

- [Create a Proof Test Recommendation in offline mode](#).

Procedure

1. [Access the Proof Test Task](#) for which you want to access the Recommendation.
2. In the upper-right corner of the page, select .

The **Recommendations** pane appears, displaying a list of Recommendations that are associated with the Proof Test.



3. In the list, select the Recommendation that you want to access.
The datasheet for the selected offline Recommendation appears.

Record Values for Proof Test in Offline Mode

Procedure

1. [Access the Proof Test for which you want to modify details.](#)
2. As needed, modify the values in the [available fields](#).
3. In the left pane, select the proof test detail that you want to modify.
The **<Proof Test Detail>** page appears.

Where <Proof Test Detail> is the value in the Template Detail ID field of the selected Proof Test Detail.

4. As needed, enter values in the [available fields](#).
In the left pane, the progress of the proof test details appears, displaying the number of proof test details you have completed.
5. Perform one of the following steps:
 - If you want to navigate to the next proof test detail, in the upper-right corner of the workspace, select .
 - If you want to navigate to the previous proof test detail, in the upper-left corner of the workspace, select .

The values are automatically saved when you navigate away from the proof test detail.

Create a Proof Test Recommendation in Offline Mode

Before You Begin



- Download a Proof Test Task for offline access for which you want to create a Proof Test Recommendation.


About This Task

During proof testing, if you observe an abnormality or failure that cannot be resolved immediately, you can create a Recommendation. You can also [attach an image](#) to the recommendation.

Note: You can create Recommendations for a Proof Test only if the Proof Test is executed using the Mobile Proof Testing module.

Procedure

1. [Access the Proof Test Task](#) for which you want to create a Recommendation in offline mode.
2. On the upper-right corner of the page, select .
The **Recommendations** pane appears, displaying a list of Recommendations that are associated with the Proof Test.
3. In the upper-left corner of the **Recommendations** pane, select .
A blank datasheet for the Recommendation appears.

4. As needed, enter values in the [available fields](#).
5. On the upper-right corner of the datasheet, select .
The Recommendation for the Proof Test is created.

Results

- The Recommendation that you created is listed in the **Recommendations** pane for the Proof Test.
- If there are two Proof Tests for the same Instrumented Function, then the Recommendation will appear in the list of Recommendations for both the Proof Tests.
- The Recommendation is synchronized automatically when you are online (i.e., connected to the GE Digital APM), and will appear on the **Recommendations** pane of the Instrumented Function associated with the Proof Test for which you created the Recommendation.


Attach an Image to the Recommendation

Before You Begin


- [Create a Recommendation for a Proof Test in offline mode](#).

Important: To attach an image to the Recommendation, you must use the GE Digital APM mobile application. If you are using GE Digital APM in a web browser, you cannot access the camera on your device.

Procedure


1. Using the GE Digital APM mobile application, [access the Recommendation for which you want to attach an image in offline mode](#).
2. On the upper-left corner of the Recommendation datasheet, select .
The default camera application for your device appears.
3. Using the camera on your mobile device, take a picture of the asset whose image you want to attach to the Recommendation.
The captured image is attached to the Recommendation and appears as a thumbnail above the datasheet.

Note: If you want to delete an image from the Recommendation:

- a. In the upper-right corner of the image thumbnail, select .
The **Confirm Delete** dialog box, asking you to confirm that you want to delete the image.
- b. Select **Yes**.
The image is deleted.

Delete a Proof Test from the Offline Store

Procedure

1. [Access the Mobile Proof Testing page](#).
2. In the right corner of the Proof Test that you want to delete, select .
The **Confirm Delete** dialog box appears, asking you if you want to delete the Proof Test from the offline store.

3. Select **Yes**.

The selected Proof Test is deleted from the offline store.

Note:

- When you delete a Proof Test, the associated Proof Tests Details are also deleted from the offline store.
- When you delete a Proof Test from the offline store, the related Proof Test will still be available in the GE Digital APM database. As needed, you can manually delete the Proof Test from the database.

Results

- If the Proof Test that you deleted was associated with a Recommendation, then the Recommendation and any image associated with the Recommendation are deleted from the offline store.
- If a Recommendation is associated with more than one Proof Test, and you deleted one of the Proof Test, then the Recommendation and associated images will not be deleted.

Chapter 2

Reference

Topics:

- [SIS Functional Test Detail Records](#)
- [Risk Assessment Recommendation Records](#)
- [SIS Proof Test Records](#)

SIS Functional Test Detail Records

This topic provides an alphabetical list and description of the fields that exist in the SIS Functional Test Detail family. When you apply a Proof Test Template to a Proof Test, a Functional Test Detail is created for each Proof Test Template Detail. The values in most of these fields are populated with the values in the corresponding fields in the related Proof Test Template Detail. This list is not comprehensive.

This family is enabled for site filtering, which means that records in this family can be assigned to a specific site and will only be accessible to users who are assigned to the same site and have the appropriate license and family privileges. For more information, refer to the [Sites](#) section of the documentation.

Field	Data Type	Description	Behavior and Usage
As Found Travel Time	Numeric	The time taken by the Final Element to reach the safe state from its normal operating state. This value is measured in seconds.	This field is enabled only if the value in the Step Type field is Final Element. If the value in this field exceeds the value in the Travel Time Limit field, then the proof test step fails.
As Found Trip Point	Numeric	A number that defines when the element has activated an SIS shutdown.	This value is used to calculate the As Found Trip Point Error.
As Found Trip Point Error	Numeric	The error value calculated for the value that you have entered in the As Found Trip Point field.	This value is disabled and calculated as follows: As Found Trip Point Error = [(As Found Trip Point - Trip Point) *100] / Trip Point If this value is less than the value in the Trip Point Error Limit field, then the proof test step has passed. Otherwise, it has failed.
As Left Travel Time	Numeric	The time taken by the Final Element to reach the safe state from its normal operating state, after repairing the element. This value is measured in seconds.	This field is enabled only if the value in the Step Type field is Final Element.
As Left Trip Point	Numeric	A number that defines when the element has activated an SIS shutdown after repairing the element.	This value is used to calculate the As Left Trip Point Error.

Field	Data Type	Description	Behavior and Usage
As Left Trip Point Error	Numeric	The error value calculated for the value that you have entered in the As Left Trip Point field.	This value is disabled and calculated as follows: As Left Trip Point Error = [(As Left Trip Point - Trip Point) *100] / Trip Point
Comments	Character	Comments about the proof test.	None
Equipment ID	Character	The ID of the Equipment against which the step is performed.	This field is disabled and populated with the value in the Equipment ID field in the corresponding Proof Test Template Detail.
Executed By	Character	The ID of the user who conducted the proof test.	This field is disabled and populated with the ID of the current user.
Execution Date	Date	The date on which the proof test was conducted.	This field is disabled and populated with the date and time on which the Functional Test Detail is saved.
Failure Condition	Character	The condition in which the proof test step failed.	None
Failure Type	Character	The type of the failure.	This field contains the following values: <ul style="list-style-type: none"> • Safe • Dangerous • No Effect
Location ID	Character	The ID of the Functional Location against which the step is performed.	This field is disabled and populated with the value in the Location ID field in the corresponding Proof Test Template Detail.
Pass/Fail	Character	Indicates whether the proof test step has passed or failed based on the pass/fail criteria that you have specified in the corresponding Proof Test Template Detail.	This field contains the following values: <ul style="list-style-type: none"> • Pass • Fail • Skip • Complete
Result Criteria	Text	A description of what is considered to be an acceptable result of the step.	This field is disabled and populated with the value in the Result Criteria field in the corresponding Proof Test Template Detail.


Field	Data Type	Description	Behavior and Usage
Step Sequence Number	Numeric	A number that represents the order in which the step should be performed, relative to other steps.	This field is disabled and populated with the value in the Step Sequence Number field in the corresponding Proof Test Template Detail.
Step Type	Character	The type of the step.	This field is disabled and populated with the value in the Step Type field in the Proof Test Template Detail.
Template Detail ID	Character	An alphanumeric value that identifies the SIS Functional Test Detail.	This field is disabled and populated with the value in the Template Detail ID field in the corresponding Proof Test Template Detail.
Test Criteria	Character	The criteria or conditions for conducting the proof test.	This field is disabled and populated with the value in the Test Criteria field in the corresponding Proof Test Template Detail.
Travel Time Limit	Numeric	A number that quantifies the maximum acceptable travel time for this step, in seconds.	This field is enabled only in SIS Proof Test Template Details that are linked to records representing final elements.
Trip Point	Numeric	A number that defines when the element should activate an SIS shutdown.	This field is enabled only in SIS Proof Test Template Details that are linked to records representing sensors, final elements, or logic solvers.
Trip Point Direction	Character	The trend of Trip Point values.	This field is disabled and populated with the value in the Trip Point Direction field in the corresponding Proof Test Template Detail.
Trip Point Error Limit	Numeric	A value that defines the range, plus or minus, within which the Trip Point value must fall to be acceptable.	This field is disabled and populated with the value in the Trip Point Error Limit field in the corresponding Proof Test Template Detail.
Trip Point Units	Character	The unit of measure associated with the value in the Trip Point field.	This field is disabled and populated with the value in the Trip Point Units field in the corresponding Proof Test Template Detail.


Risk Assessment Recommendation Records


Recommendation records store details about the recommendation that you have proposed to mitigate the risk. This topic provides an alphabetical list and description of the fields that exist for the Recommendation family. These fields appear on the Recommendation datasheet, unless otherwise specified. The information in this table reflects the baseline state and behavior of these fields. This list is not comprehensive.

This family is enabled for site filtering, which means that records in this family can be assigned to a specific site and will only be accessible to users who are assigned to the same site and have the appropriate license and family privileges. For more information, refer to the [Sites](#) section of the documentation.

Field	Data Type	Description	Behavior and Usage
Alert Assignee When Due?	Logical	Indicates whether an email notification must be sent to the user selected in the Assigned To Name field when the recommendation is due.	This field appears in the Alert datasheet.
Assigned To Name	Character	The name of the user who is assigned the Recommendation.	You can select a user from the list.
Author Name	Character	The first and last name of the Security User who created the Recommendation.	This field is populated with the name of the user who was logged in while creating the Recommendation.
Business Impact	Character	The impact to the business if the recommended action is performed.	This field contains a list of System Codes that exist in the MI BUSINESS IMPACT System Code Table. You can choose from the following baseline values: <ul style="list-style-type: none"> • Facility Shutdown (FACILITY SHUTDOWN) • Facility Slowdown (FACILITY SLOWDOWN) • Unit Shutdown (UNIT SHUTDOWN) • Unit Slowdown (UNIT SLOWDOWN) • System Shutdown (SYSTEM SHUTDOWN) • System Slowdown (SYSTEM SLOWDOWN)

Field	Data Type	Description	Behavior and Usage
Completed Date	Date	The date on which the recommended action was performed.	This field contains a  button, which you can select to access the Calendar feature.
Create SAP Notification?	Logical	Indicates whether a notification should be created in an external EAM system when this Recommendation is saved.	None
Days Before Due Date to be Notified	Numeric	The number of days before the Target Completion Date that an email notification must be sent to the user selected in the Assigned To Name field.	This field appears in the Alert datasheet. This field is required when the Alert Assignee When Due check box is selected.
Equipment ID	Character	The Equipment that is associated with the Instrumented Function for which you are proposing the Recommendation.	This field is disabled and populated with the value stored in the Equipment ID field in the Instrumented Function datasheet.
Final Approver Name	Character	The name of the user who must grant the final approval for the Recommendation.	You can select a user from the list.
Frequency of Alert After Due Date	Numeric	Specifies how often email messages will be sent after the completion date has passed.	You can choose any of the following options: <ul style="list-style-type: none"> • Never • Daily • Weekly • Monthly • Yearly This field appears in the Alert datasheet. This field is required when the Alert Assignee When Due check box is selected.
Functional Location ID	Character	The Functional Location that is associated with the Instrumented Function for which you are proposing the Recommendation.	This field is disabled and populated with the value stored in the Functional Location ID field in the Instrumented Function datasheet.
Implementation Alert Text	Character	The text that will be included in the email notification sent to the approver.	This field appears in the Alert datasheet.

Field	Data Type	Description	Behavior and Usage
Interval	Numeric	The interval at which the Action related to the Recommendation needs to be performed. This Action is created as part of an Asset Strategy after the Recommendation is promoted to ASM.	For example, if the value in this field is 4, and if the value in the Interval Units field is Days, then that Action must be performed every four days.
Interval Units	Character	The units of the interval at which the Action related to the Recommendation needs to be performed. This Action is created as part of an Asset Strategy after the Recommendation is promoted to ASM.	For example, if the value in this field is Days, and if the value in the Interval field is 4, then that Action must be performed every four days.
Mandatory Date	Date	The date by which the recommended action must be completed if it was not completed by the target completion date.	This field contains a  button, which you can select to access the Calendar feature.
Recommendation Basis	Character	The basis for the Recommendation.	None
Recommendation Description	Character	A description of the Recommendation.	None
Recommendation Headline	Character	A short description of the Recommendation.	If you select the Alert Assignee When Due check box, the value that you provide in the Recommendation Headline field becomes the subject of the alert email.
Recommendation ID	Character	The ID for the Recommendation	This value must be unique.
Recommendation Priority	Character	The priority of the recommended action.	This field contains a list of System Codes that exist in the MI_PRIORITY System Code Table. You can choose from the following baseline values: <ul style="list-style-type: none"> • High (HIGH) • Medium (MEDIUM) • Low (LOW)
Reevaluate?	Logical	Indicates whether you want to reevaluate the Recommendation.	This field appears in the Alert datasheet.

Field	Data Type	Description	Behavior and Usage
Reevaluation Alert Body Text	Character	The text that will be included in the reevaluation email message.	This field appears in the Alert datasheet. This field is enabled only when the Reevaluate? check box is selected.
Reevaluation Date	Date	The date on which a reevaluation email message will be sent to the users selected in the Reevaluation Notification List field.	This field appears in the Alert datasheet. This field is required when the Reevaluate? check box is selected.
Reevaluation Notification List	Character	The users to whom the reevaluation email message will be sent.	This field appears in the Alert datasheet. This field is enabled and is required when the Reevaluate? check box is selected.
Required Equipment Status	Character	The state in which the equipment should exist before performing the recommended action against it.	This field contains a list of System Codes that exist in the MI_STATUS System Code Table. You can choose from the following baseline values: <ul style="list-style-type: none"> • ON-LINE (ON-LINE) • Off-Line (OFF-LINE) • Not Applicable (N/A)
Reviewer Name	Character	The name of the user who will review the Recommendation.	You can select a user from the list.
Status	Character	The status of the Recommendation.	This field contains a list of the following states: <ul style="list-style-type: none"> • Created (CREATED) • Pending Review (PENDING REVIEW) • Reviewed (REVIEWED) • Rejected (REJECTED) • Cancelled (CANCELLED) • Superseded (SUPERSEDED)
Target Completion Date	Date	The date by which the recommended action should be completed.	This field contains a  button, which you can select to access the Calendar feature.

Field	Data Type	Description	Behavior and Usage
Work Request Equipment	Character	The work request number when a recommendation is converted from a notification within the EAM to a work order. (e.g., using functionality provided with the SAP Interfaces, Oracle EBS eAM Interfaces, and Maximo Interfaces).	This field is disabled and populated after the external work request is created.
Work Request Functional Location	Character	The work request number when a recommendation is converted from a notification within the EAM to a work order. (e.g., using functionality provided with the SAP Interfaces, Oracle EBS eAM Interfaces, and Maximo Interfaces).	This field is disabled and populated after the external work request is created.
Work Request Reference	Character	The ID of the external work request that was created from this Recommendation(e.g., using functionality provided with the SAP Interfaces, Oracle EBS EAM Interfaces, and Maximo Interfaces).	This field is disabled and populated after the SAP Notification or Oracle EBS EAM Work Request is created.

SIS Proof Test Records

SIS Proof Test records store details about a proof test that is executed, including the results of the proof test. This topic provides an alphabetical list and description of the fields that exist for the SIS Proof Test family and appear on the SIS Proof Test datasheet, unless otherwise specified. The information in the table reflects the baseline state and behavior of these fields.

This family is enabled for site filtering, which means that records in this family can be assigned to a specific site and will only be accessible to users who are assigned to the same site and have the appropriate license and family privileges. For more information, refer to the [Sites](#) section of the documentation.

Field	Data Type	Description	Behavior and Usage
Actual Work Time	Numeric	The number of hours required to complete the SIS Proof Test.	If the SIS Proof Test is integrated with Work Management, the value in this field is used to create a confirmation record when the SIS Proof Test is closed.
Cleared All Bypasses and Forced Logic	Logical	Indicates whether or not you have cleared all bypasses and forced logic while performing the proof test.	None
Commencement Date	Date	The date on which the proof test was started.	None
Completion Date	Date	The date on which you completed the proof test.	None
Equipment Operating State	Character	The current state of the equipment that you are testing.	This field contains the System Codes that exist in the MI EQUIP OP STATE System Code Table. You can choose from the following baseline values: <ul style="list-style-type: none"> • ON-LINE (ON-LINE) • Off-Line (OFF-LINE) • Not Applicable (NA)
Functional Test Closed	Logical	A value that indicates whether or not the proof test has been completed.	If you select this check box, all fields on the SIS Proof Test datasheet are disabled.
Functional Test Status	Character	Stores the current status of the proof test.	This field contains the System Codes that exist in the MI FUNCTIONAL TEST STATUS System Code Table. You can choose from the following baseline values: <ul style="list-style-type: none"> • Active • Complete • Closed

Field	Data Type	Description	Behavior and Usage
Functional Test Template	Character	The ID of the SIS Proof Test Template that was used to create the SIS Proof Test.	This field contains a list of proof test templates that are approved and linked to the instrumented function on which you are conducting the proof test. This field is required. After you select a template from the list and save the record, this field is disabled. The Proof Test Template Detail records linked to the selected template are listed in the Analysis Details section.
SIS Or PIF Key	Numeric	The Entity Key of the Instrumented Function or the Logic Solver to which the SIS Proof Test record is linked.	This field does not appear on the datasheet by default.
SIS Tester Name	Character	The name of the user who is responsible for performing the proof test.	This field contains the names of: <ul style="list-style-type: none"> The Security User who created the SIS Proof Test -and- Members of the MI SIS Administrator, MI SIS Engineer, or MI SIS User Security Groups
Task Addressed	Numeric	The inspection task that is addressed by the proof test.	This field contains the inspection tasks that are linked to the instrumented function or the logic solver on which you have performed the proof test.
Test Description	Character	A description of the proof test.	None
Test ID	Character	The ID for the proof test.	None
Test Summary	Text	A summary of the proof test that you have performed.	None
Type of Test	Character	The type of the proof test that you have performed.	This field contains the following baseline values: <ul style="list-style-type: none"> Functional Test System Validation