Infor Mobile Service User Guide

LN 10.4 - LN 10.8 and LN Cloud Edition (LN CE)

Publication Information

Release: Infor LN 2023.x
Publication Date: January 16, 2023
Document code: ln_2023.x_mfsug__en-us

Contents

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Chapter 1: Introduction

Infor LN Mobile Service is an application that is available for LN 10.4, LN 10.5, LN 10.6 and higher versions and LN Cloud Edition. It is not a stand-alone application but an addition to and fully integrated with the Service module of Infor LN.

This application provides field service engineers quick access to relevant resources and data. This improves service resolution efficiency and customer satisfaction. The field service engineer is linked to a service department and is responsible for performing service activities assigned to the designated department. The service engineers can use this application as a virtual office, to accomplish their day-to-day tasks, remotely.

Infor LN Mobile Service has a new and modern user experience and is available for:

1. Windows devices running on Windows 7, Windows 8/8.1 or Windows 10 or Windows 11, except for the RT versions.
2. Android devices with Android 7.1 or higher, except for Android TV, Wear OS and any device that is not certified by Google.
3. iOS iPhones and iPads with iOS 8.0 or later. Supported architectures: ARM64 and ARMv7.

This user guide describes the functions and features of Mobile Service. As Mobile Service could have different navigation patterns, dependent on the device, it is recommended to read chapter User Interface and Navigation on page 56 first. If required, the difference per device is mentioned in this guide.

Note: The available functionality in Mobile Service depends on the LN version it integrates with. The LN Cloud Edition supports the most functionality, earlier LN versions support less functionality.

Chapter 2: Getting Started

This chapter explains the actions that are required to get started with Mobile Service application.

Also, see the following documents for details on getting started with Mobile Service:

- *Infor LN Mobile Service - Getting Started Guide for Windows devices*
- *Infor LN Mobile Service - Getting Started Guide for Android and iOS*

Actions in Infor LN

This paragraph describes which actions are needed in LN to get started with Mobile Service. The following is required:

1. The LN Client Service must be enabled in the admin page of LN-UI (on a cloud server, this option is always enabled).
2. Check the **Mobile Field Service** check box in session **Implemented Software Components** (tccom0500m000) to enable the integration.
3. The service engineers should be defined in session **Employees** (bpmdm0601m000) with the proper logon code and department. This department must exist in the Service Departments (tsmdm1100m000) session. People data and Service data need to exists.
4. Create a profile in session **Service User Profiles** (tsmdm1150m000) for each service engineer.
5. It is recommended to the administrator to create a Connection Settings File or a QR-code to make it easier for the engineers to make a first connection. This can be done in the admin page of LN UI, or can be downloaded from the Mobile Service authorized app in IONAPI.

Actions on Device

This paragraph describes which actions are needed on the local device to get started with Mobile Service.

1. Install Mobile Service on the local device. The setup file for Windows can be downloaded from the **Actions** menu in session **Mobile Service Parameters** (tssoc0102m000). For Android and iOS the installation needs to be performed from Google Play or App Store respectively. The app can be found by searching for Infor LN Mobile Service.
2. Start Mobile Service and create a profile. It is optional to protect your profile with a local password.

3 Connections settings are required to be able to connect to LN. Specify those settings as provided by your system administrator. The easiest way is to load a Connection Settings File or to scan a QR-code.
Note: When authentication is performed via ION API (for example when connecting to a multi-tenant cloud environment), a browser will pop up, asking you to provide your credentials (email and password) to the authentication server. Provide the credentials and follow the process to get connected.

4 If you are accessing the LN Mobile Service for the first time, you must perform a full data download. This will download all master data and your assignment activities from LN and stores the data locally. For Windows the option '**Send/Receive**' can be found in the top bar. For Android/iOS, this option is available in the menu and the synchronization screen will be shown automatically the first time the app is started.
Note: A full data download is only required once: the very first time Mobile Service is started and connects with LN. After the first full data download finished all applicable data changes in the app or in LN are synchronized during automatically or manually started synchronizations. After the first full data download, a full data download is only required if Mobile Service indicates it.

   When the synchronization process is completed, the LN Mobile Service application can be used. Your assigned Service Orders, that have been released, are now displayed on your device. Any relevant change in Infor LN is downloaded to the application whenever a manual or automatic Send/Receive Data is performed.

Chapter 3: Profiles and Connections

This chapter explains the process to create a profile and configure the connection settings that are required to connect to Infor LN.

Profiles

At least one local profile in Mobile Service is needed to be able to sign in. As soon as the application is started for the first time the user needs to create a profile. A profile is needed to:

1. Keep local settings and data together.
2. Protect local data from unauthorized access by others.

To create a new profile in Windows, press the option **New Profile** on the sign in screen. To create a new profile on Android/iOS, press the option **Manage Profiles** on the sign in screen and choose **Add**. You can protect your profile and data by a password, although this is not mandatory.

Connection settings

The most important properties of a profile are the connection settings. Connection settings are required to connect to Infor LN and should be provided by the system administrator.

- On Windows devices the connection settings are directly linked to a profile. Click on **Profile Options** in the sign in screen and on the button **Connection Settings** to change the connection settings.
- On Android/iOS, a profile contains one or more Environments and the connection settings are linked to an environment. Profiles can be maintained from the option **Manage Profiles** in the sign in screen. Environments can only be maintained after you have signed in to Mobile Service for a certain profile via option **Environments** in the menu. Select an environment and click on the option **Connection Settings** to modify those.

Connection settings can be entered and changed manually. The easiest way is to load a Connection Settings File or to scan a QR-code provided by the system administrator. Loading a Connection Settings File or scanning a QR-Code is mandatory when authentication is performed via ION API (for example when connecting to a Multi-Tenant Cloud environment).

The following connection settings are needed when authentication is not performed via ION API:

- **Username**: The username for connection with the Infor LN backend. In case of a Single Sign On (SSO) environment, this is the SSO user name. Otherwise this is the LN backend username.
- **Password**: The password to connect to the Infor LN backend.
- **LN UI Server (URL)**: The URL of the Infor LN UI Server.
- **LN Environment**: The environment Infor LN runs in.
- **Company**: The logistical data company of LN.

Specify the following fields when authentication is performed via ION API:

- Company: The logistical data company of LN.

Note: When your organization uses Mobile Device Management (MDM) it might not be possible to enter an LN UI Server and an LN Environment. In this case a **Managed Server** field is available, and it can only be possible to select a Managed Server. This is only applicable to Android/iOS devices.

Chapter 4: Settings

This chapter provides information about the settings required to work with the application. You can access the settings from the Menu.

Settings can be defaulted and optionally be disabled by your organization. See Appendix E on page 83 for details on how to make default and disable Mobile Service App Settings in LN.

Connection settings

This page is only available on Windows devices and provides an overview of the settings required to connect to Infor LN. Most of this information is defined during the creation of a profile and cannot be changed in the settings, only be viewed. For more information, see chapter Connection settings on page 10.

You can also specify the following optional setting when authentication is not performed via ION API:

Bshell Command: Add specific commands to be used when connecting to Infor LN. This can be useful when testing or tracing. Normally, this setting must be blank.

Note: An invalid command results in connection errors.

Send and Receive data settings

This page provides an overview of the settings required to synchronize the data with LN.

- **Send and receive data automatically**: If this field is set to **Yes**, the data synchronization with LN is automated.
- Automatic receive interval in seconds or minutes. The user defined number of seconds or minutes after which data is received from LN.
- **Automatic send interval in seconds**: The user defined number of seconds after which data is sent to LN.
- **Send and receive data when pausing or completing an activity**: If this field is set to **Yes**, the data is sent or received when an activity is paused or completed. This makes it possible to send and receive data at the moment the engineer finishes the work for an activity.

- **Send and receive data when ordering bench stock**: If this field is set to **Yes**, the application automatically triggers a synchronization as soon as you perform the Order Now action on the **Inventory - Bench Stock** page.
- **Number of days to keep the synchronization log**: The number of days for which you want the application to retain the synchronization log.
- **Send GPS Information on activity actions**: If this field is set to **Yes**, the application automatically logs GPS data when starting, stopping and completing an activity. To use this functionality, the location service should be enabled. Click the **Test GPS** option to test the functionality. The GPS information is stored in LN session Employee GPS Data (tccom0105m000).
- **Enable GPS logging interval**: If this field is set to **Yes**, GPS data is logged based on the **GPS logging interval in minutes** setting. To use this functionality, the location service should be enabled. You can click the **Test GPS** option to test the functionality. The logged GPS data is synchronized with LN during the regular or manual synchronization. The GPS information is stored in LN session Employee GPS Data (tccom0105m000). GPS data is only recorded when Mobile Service is actively used. Therefore, this setting cannot be used to make Mobile Service a full-fledged real time GPS tracker.
  Note: This functionality is available for the Mobile Service integration with LN 10.6 and higher versions, as well as with LN CE.
- **GPS logging interval in minutes**: The interval in minutes for which you want Mobile Service to log GPS data.
  Note: This functionality is available for the Mobile Service integration with LN 10.6 and higher versions, as well as with LN CE.
- **Refresh application labels at startup**: If this field is set to **Yes**, the application labels are refreshed every time you log on to Mobile Service. All labels and messages are stored in LN. This option is helpful if these labels and messages change frequently. If that is not the case, it is recommended to set this field to **No**. You can also perform a manual refresh of all labels and messages.

Data display settings

The settings for the format in which the data is displayed:

- **Display format for code and description**: Select the option to determine the display format for the code and the description for an entity from Infor LN. Examples: warehouses, labor types, etc. It is possible to display only the code, only the description or the code and the description.
- **Separator for code and description**: A delimiter used to separate the code and the description display for an entity.
- **Display format for item code and description**: This is an optional setting if the display format of the item code and item description must differ from the display format of other entities.
- **Step size for quantity changes**: If this field is filled with a value, this quantity is used to increase and decrease the value of quantity fields throughout the app using the plus and minus buttons. If the field is left empty or has a value of zero and a rounding factor is defined in LN for the unit applying to the particular field, the rounding factor is used. When rounding factor is not defined, a default value of 0.01 is used.
  Note: This functionality is available for the Mobile Service integration with LN 10.6 or higher and LN CE.
- **Step size for duration changes**: If this field is filled with a value, this value in minutes is used to increase and decrease the value of duration fields throughout the app using the plus and minus buttons. If the field is left empty or has a value of zero, a default value of 15 minutes is used.

Note: This functionality is available for the Mobile Service integration with LN 10.6 or higher and LN CE.

- **Enable item code scanning**: If this setting is enabled, barcode and QR code scanning functionality is available for every item field. This allows the device camera to be used to scan the barcode or QR code of an item.
- **Enable serial number scanning**: If this setting is enabled, bar code and QR code scanning functionality is available for every serialized item field. This allows the device camera to be used to scan the barcode or QR code of a serialized item.
- **Enable search term scanning**: When this setting is enabled, barcode and QR code scanning functionality is available for search fields throughout the app. This allows the device camera to be used to scan a barcode or QR code containing a search term (for example an item code, serial number, or any text). The search field is filled with the data of the barcode or QR code after scanning the search term.
- **Use User Language**: If this setting is set to Yes, the language as defined for the user in Infor LN is used as the application language. If you want to use other language, this setting must be set to **No**.
- **Application Language**: The language in which the application is displayed. If you change the application language, it is applicable only after you restart the application. This field is enabled only if **Use User Language** is set to **No**.
- **Map Provider**: This setting can be used to set which map provider mobile service must use. This setting is for the Windows version of the app only. The current options are Windows Maps and Open Street Map.

Schedule settings

This page provides an overview of the settings for the **Schedule** view.

- **Allow to Accept/Decline a visit**: Use this setting to determine if accepting or declining activities for a single visit is allowed in the schedule. If this field is set to **No**, the **Accept** and **Decline** button are not displayed in the schedule.
- **Split overlapping visits**: This setting determines if multiple activities of a visit (service order) must be split based on the presence of overlapping activities of another visit. If disabled, multiple activities are merged in a single visit, assuming all other conditions for joining the activities in one visit are also met, even if the resulting visit overlaps with the activities of another visit. If enabled, the activities of the same visit always be split into separate visit when overlapping with an activity of another visit.
- **Splits visits with interval between activities**: This setting determines if multiple activities of a visit (service order) must be split based on the time interval between activities. If disabled, multiple activities are merged in a single visit, assuming all other conditions for joining the activities in one visit are also met, regardless of the interval between activities. If enabled, the activities of the same visit are split into separate visits if the interval between the activities exceeds the interval set in Split visit if time between activities exceeds setting.
- **Split visit if time between activities exceeds**: The visit is split up into separate visits when the time interval between two activities of a visit (service order) exceeds the number of entered minutes. The interval is the time between the planned finish time of one activity and the planned start time of a second activity of the same service order. If the interval between activities is less than or equal to the time in this setting, both activities are merged in a single visit, assuming all other conditions for joining the two activities in one visit are also met. If the time between the two activities is more than the time in this setting, the activities are always be split into separate visits. Note that activities can be split into more than two visits depending on the number of activities and the intervals between them.

- **Visits to Display**: Which visits should be displayed in the schedule. It is possible to show either all visits or only the visits for a specific period.
- **Display from the past**: The number of days, in the past, for which the application shows visits in the schedule. This option is only available when the value of the **Visits to Display** field is set to **`Display visit for the following period`**.
- **Display of the future**: The number of days, in the future, for which the application shows visits in the schedule. This option is only available when the value of the **Visits to Display** field is set to **`Display visit for the following period`**.
- **Check for uncompleted inspections during activity completion**: Sets the type of check to occur when an activity is completed while there are uncompleted inspections for the activity. When **`Never`** is selected, no checks are done. When **`Warn`** is selected, the check can result in a warning. **`Block`** can prevent the activity from being completed until all inspections are complete.
  Note: This setting in Mobile Service is available from LN 10.5 onwards.
- **Enable option to start, stop or complete multiple activities at once**: If this setting is enabled the following options are available in the Activities screen:
  - **Start Activities**: If this option is selected then the accepted, but not yet started activities, are started.
  - **Stop Activities**: If this option is selected the started activities are stopped.
  - **Complete Activities**: If this option is selected the stopped activities are completed.
- **Ask for confirmation when completing activities**: If this setting is enabled Mobile Service asks for confirmation when the user completes one or more activities.
- **Start and finish times of activities due to start, stop and complete actions, are based on**: If this setting is enabled, the following options are available:
  - **Current time**: If this option is selected, Mobile Service registers the current time as actual start time and actual finish time of the activity whenever an activity is started, stopped, or completed.
  - **Planned Times**: If this option is selected Mobile Service registers the planned start time and planned finish time as actual start time and actual finish time of the activity whenever an activity is started, stopped, or completed.
- **Travel registration with Start/Stop options**: If this setting is enabled, the following options are available for an accepted visit:
  - **Start Travel**: Select this option whenever you start traveling to a visit or from a visit. If this option is selected, travel registration is started for the visit. Travel time is registered for the first activity that has been accepted. The travel time record is indicated by a van icon in the Activity - Travel time screen (Windows), or by the status ‘Traveling’ (Android/iOS).
  - **Stop Travel**:Select this option whenever you stop traveling for a visit. If this option is selected the travel registration is stopped. The travel time record is updated and confirmed.
- **Show travel data when finishing travel**: If this setting is enabled a **Confirm Travel Data** screen is displayed when traveling is stopped. The travel time can be changed in this screen, and a travel distance can be entered. When saving, the travel time is updated and confirmed, and the travel distance is saved for the same activity as for which the travel time was recorded.

  When this setting is not enabled, the **Confirm Travel Data** screen is not displayed when travel is stopped; only travel time is registered.

  Note: The registered travel time can still be changed afterwards in the **Activity – Travel Time** screen. Travel distance can be registered manually in the **Activity - Other Cost** screen.

Hours settings

This page provides an overview of the settings for the **Hours** view:

- **Number of previous weeks for which to display hours**: The number of weeks, in the past, for which the application retrieves the registered hours from LN.
- **Number of following weeks for which to display hours**: The number of weeks, in the future, for which the application must retrieve the registered hours from LN.

Serial history settings

This page provides an overview of the settings for the serial history views:

- **Automatically download serial history for active visits**: This indicates if the application automatically downloads serial history after downloading new service orders or updated service orders. The period to download serial history is defined in the next setting.
- **Period to automatically download serial history data**: When the previous setting is set to **Yes**, all history for this period is downloaded.
- **Period to manually download serial history data**: When the user clicks on the refresh button in the serial history view, the serial history is downloaded according to this period. The user can set this period at any value, but it is advised to set this to a longer period than the automatic download.
- **Period to keep serial history data**: When a visit is completed, and no other visit references the same serialized item, the serialized item history could be removed. The user could however choose to keep history for a longer time if he expects to be servicing the same serials for more than one time. The user can set this period at any value, but it is advised to set is to a longer period than the automatic download.

Visit report settings

This page provides an overview of the settings related to the visit report:

- **Show completed activities before visit report**: If this field is set to `Yes`, the completed activities are displayed as a list before generating the visit report. This makes it possible to select the activities that must be displayed on the visit report.
- **Allow activities of other service engineers to be included in the visit report**: If this field is set to `Yes`, it is allowed to include the completed activities of other service engineers in a single visit report. These can be service engineers who have worked on the same activity or on other activities of the same service order. This setting is enabled only if the **Show completed activities before visit report** is set to `Yes`.
  Note: This functionality is available for the Mobile Service integration with LN 10.6 and higher versions, as well as with LN CE.
- **Visit report based on**:

  This setting determines the selection of completed activities to be part of the visit report. When **Show completed activities before visit report** report is set to `Yes`, this setting only serves as an initial selection.

The service engineer can change the selection of activities by adding or removing completed activities. Possible options:

- **Based on completed activities of the visit**: Includes all the completed activities of the visit.
- **Based on completed activities of the order**: Includes all completed activities of the service order.
  Note: Both these options only include the activities which the service engineer worked on.
- **Based on completed activities of all assigned service engineers**: Includes all the completed activities of the service order for all service engineers which worked on the service order. This option is available only if the **Show completed activities before visit report** and **Allow activities of other service engineers to be included in the visit report** options set to `Yes`.
  Note: This option is available for the Mobile Service integration with LN 10.6 or higher and LN CE.

- **Pdf conformance level for rtf templates**: This setting indicates which pdf conformance level is applied to visit reports generated based on rtf templates. For example, when you select PDF/A-1b the pdf visit report is generated to conform the PDF/A-1b format. There are also 2 non-conformance levels: Rich Text and None. When you select one of these values, the resulting pdf visit report does not conform any PDF/A level. Rich Text is the default value for this setting.
  Note: This setting only applies to visit reports that are generated based on rtf templates. It does not apply to visit reports generated based on html templates.

Documents settings

If LN is linked to a Document Management System like ODM or IDM, some document settings can be setup in Mobile Service.

- **Automatically download documents**: If this field is set to **Yes**, the process to download the required documents from LN is automated. As soon as service orders are synchronized with LN, the related documents are downloaded.
- **Download documents for**: Use this option to download documents for **All orders** or **Orders for today and the following period**. This makes it possible to have the documents of all orders available or only the documents for a specific period. This field is enabled only if the **Automatically download documents** field is set to **Yes**.
- **Days**: The number of days for which the documents must be downloaded, starting from the current date. This field is enabled only if the value of the **Download documents for** field is set to **Orders for today and the following period**.

Support settings

Mobile Service logs information to be used in case of issues.

- **Log Level**: It is possible to choose log level Errors (recommended/default), Information or Debug.
- Use the option **Share Log File** to share the log file with other persons via mail or via other channels (only Android/iOS).
- Use the option **Clear Log File** to empty the log (only Android/iOS).

- Use the option **Upload Database** to upload the local database to the LN backend.
- Use the option **Upload Log File** to upload the log file to the LN backend.

Note: To be able to upload the local database or the log file, the administrator must give permission to the LN Mobile Service user. This can be done in session 'External File Upload Settings (tcstl3500m000)'.

Chapter 5: Send and Receive Data

Mobile Service sends data to and receives data from LN. It is possible to define some settings to automate the process of sending/receiving data. It is also possible to send and receive data manually by clicking on the **Synchronize** button (the icon with two rotating arrows). In that case no progress window will be shown. Another option to send/receive data manually is to click on the option **Send/Receive** in the menu. This will open a dialog which will also show the progress of the sending and receiving process.

Full data download

If you are accessing LN Mobile Service for the first time, you must perform a full data download. In which case, all the relevant master data such as items, warehouses, business partners, addresses, service types and the transactional data, such as service orders assigned to the engineer, is retrieved from Infor LN.

Do the following to activate a full download:

- Windows devices: Click on the option **Send/Receive** in the top bar, check the **Full Data Download** check box and click **Send/Receive**.
- Android/iOS devices: Click on the option **Send/Receive** in the menu and click on the button **Full Data Download**.

The window displays the progress of the send and receive actions. A full data download erases all the local data and reads it again from LN.

Note:

- A full data download could take considerable time. It is recommended to perform this action only if the connection to LN is fast and stable.
- A full data download erases all local changes that have not yet been sent to LN.
- A full data download is only required once: the very first time Mobile Service is started and connects with LN. After the first full data download finished all applicable data changes in the app or in LN are synchronized during automatically or manually started synchronizations. After the first full data download, a full data download is required only if Mobile Service indicates it.
- Dependent on the Retention Period defined in session **Generic Parameters** (tcgen0100m000), a full download is done automatically if a regular synchronization was not done for a long time.

Regular data download

A normal or regular synchronization (so not a full data download) only synchronizes changes of master data and transactional data since the last synchronization. This is the preferred way of working. As soon as all the data is available in Mobile Service, you can start making changes such as changing material, adding hours, and so on. If you make changes to an item a small arrows indicator is displayed on the item, which indicates that the data in Mobile Service differs from the data in LN and still needs to be synchronized.

Sometimes, it is required to 'submit' local changes. For example, when you change the hours spent for a task. In that case you must submit this change by clicking the check mark icon behind the task (Windows) or by pressing the option **Complete** (Android/iOS). The small arrows indicator disappears after the changed data has properly been sent to LN.

As long as not all local changes are sent to LN, the latest version of e.g. a service order cannot be displayed in Mobile Service. In fact, any local change which have not yet been synchronized blocks the download of the latest version. In this case, a red-green indicator is displayed (on Windows devices). This indicator is also visible in the 'Schedule View' to indicate that the data is not yet synchronized with LN.

Data Sending Errors

Changes are sent to LN using web services, which might result in an error. In this case, an alert is displayed indicating that the synchronization resulted in one or more errors and manual action is required. The alert is displayed for a brief period.

If synchronization errors exist, then, on the Windows version, a yellow icon with an exclamation mark is displayed as well. On the Android/iOS version the synchronization icon color changes and shows an exclamation mark.

To view the synchronization errors and the remaining synchronization actions that are blocked due to the error, click the alert or the yellow icon (Windows), or the synchronization icon (Android/iOS). The **Data Sending Errors** screen is opened. On Android/iOS it is also possible to open this screen via menu option **Data Sending Errors**.

In the **Data Sending Errors** screen you can choose what to do with the error by selecting one of the following options:

- **Skip**: the synchronization of the data is skipped for now.
- **Retry**: the synchronization of the data is done again. This option may for example be used when data in LN has been corrected and the corrections make it possible to synchronize the data without error.
- **Delete**: the changes done in Mobile Service that caused this error are undone.

Click on the synchronization button in the header, to synchronize the changes to LN.

Chapter 6: Schedule

This chapter explains the schedule and calendar related to the engineer.

Visits

Use the **Schedule** page to view the visits an engineer must work on. The schedule is displayed if Mobile Service is started. It can also be activated from the menu.

Activities are grouped together into visits. All activities of a service order to be performed on the same location are added to one visit. For each visit, detailed information such as business partner and address information are displayed.

The status of a visit is based on the highest status of the activities of that visit. If not all activities of a visit have the same status, the visit status starts with 'Partially' such as 'Partially Accepted'. The visit status is set to **Completed** only if all the activities are completed.

Before anything can be registered for a visit, it should be accepted by the option **Accept**. The service engineer is also able to Decline a visit. In this case a reason needs to be entered. All reasons of type Assignment Rejection listed in session **Reasons** (tcmcs0105m000) are listed. In the Decline Text, additional information for the reason to decline the visit might be specified.

Dependent on authorization the engineer may add a new visit. To reschedule a visit, its start time needs to be changed via the **Edit** option. The visit can only be moved if none of the activities it contains have a status **Completed** or **Rejected**. It is also required the Service User Template assigned to the employee in LN has **Reschedule Visits** enabled.

To delete a visit, select the option **Delete**. Only the newly created visits which have not yet been synchronized to Infor LN can be deleted.

Several other actions can be applied to a visit. For example, starting travel, stopping travel, and browsing to related data like Serial History, Physical Breakdown and Ordered Materials.

The search functionality in the List view can be used to easily search on the business partner name, the service order or a part of the address amongst other things.

A visit in the schedule displays start time and end time, business partner, order number and status, amongst others. It may also contain icons that, for example, indicate an appointment, the availability of order text or rental.

Calendar Views

This paragraph only applies to Windows devices.

The status of a visit is represented by the following colors:

- Status Planned: light grey
- Status Assigned: dark grey
- Status Declined: red
- Status Accepted: orange
- Status Started: light blue
- Status Stopped: dark blue
- Status Completed: light green
- Status Finalized: dark green

You can perform these actions:

- Switch to Day, Month, Week or List view.
- Use the slider to zoom in or zoom out on the visits in the Day, Month and Week views.
- Use the status filter field to display only visits with a specific status in the List view.
- Move the visit using drag and drop: click and momentarily hold to select the visit. While holding down the mouse button drag the visit to the desired time.
- Click the visit to access the activities of the visit in the expanded view.
- Click **Accept** or **Decline** to Accept or Decline the visit.
- Add a Visit.
- Editing a Visit.

Visit page

Click on a visit to open the visit page. The left sidebar (Windows) or the tab **General** (Android/iOS) displays visit related information, such as the start time of the first activity, the finish time of the last activity of the visit, the picture of the business partner, address information, service order and visit status. Click on the information icon to get more information regarding the visit (Windows only).

The following tabs or options are also available:

- **Activities**: The list of activities of the visit to be performed.
- **Documents**: Displays all documents linked to the service order. This tab is available only if the document management is implemented for Mobile Service.
- **Report**: Displays the visit report.

Within the **Activities** tab, it is possible to search through the activities or to filter on activity status. It is also possible to filter all activities that are not completed.

On Windows, click the **Search** icon to activate the search or status filter. On Android/iOS tap the **Search** icon to activate the search or tap the status drop down icon to activate the filter on activity status.

After a visit has been finalized, the visit activities and its related data (For example, tasks, other costs) can only be changed by clicking **Change** on the **Visit - Activities** tab.

Note: This functionality in Mobile Service is available from LN 10.5 onwards and can be enabled by selecting **Change Finalized Visit** option in LN session Service User Templates (tsmdm1660m000).

Chapter 7: Activities

When a client reports a fault to the service provider, the service engineer visits the client location to resolve the fault. The **Visit Activities** page provides an overview of the activities that must be performed during a visit. Visits are determined dynamically. All activities from the same order and the same location are grouped together in one visit. As soon as the order, business partner or location differs or if the engineer needs to travel, a new visit is created. The activities that have a common top item, are grouped together and can be accepted or declined individually or in a batch. You can indicate whether you have started or stopped working on an activity or completed an activity.

Activity page

Click on an activity to open the activity page. The left sidebar (Windows) or the tab **General** (Android/iOS) contains:

- The Date, start time, finish time of the assigned activity.
- A picture, code, description, serial number, alternative serial number of the top-item of the activity.
- Click on the information icon to get more information regarding the activity (Windows only).

The following tabs or options are also available:

- Tasks
- Inspections
- Materials
- Travel Time
- Other Costs
- Diagnosis: Information for diagnosing the current activity.
  Note: This tab is not available for rental agreement activities.
- Documents: To view attached documents of the activity.
- **Note:** Tasks and Inspections are displayed on one page on Windows devices. The same applies to Travel Time and Other Costs.

Actions on Activities

You can perform following actions in the view of the activities:

- Review the list of activities.
- Start the details screen of one activity by clicking on it.
- Accepting an activity by clicking on the option **Accept**. The status of the activity changes to **Accepted**.
- Declining an activity by clicking on the option **Decline**. The status of the activity changes to **Declined**. Note that a Reason needs to be entered. All reasons of type Assignment Rejection listed in session **Reasons** (tcmcs0105m000) are listed. In the Decline Text additional information for the reason to decline the activity might be specified
- Starting and stopping an activity. You can click **Start / Stop** to register the actual start and finish time of the activity.
  Note:
  - If the activity status is **Accepted** and you click **Start** (for the first time), the actual start time is registered, and the activity status is set to **Started**. The back-office planner receives an indication that you have started the activity.
  - If the activity status is **Started** and you click **Stop**, the actual stop time is registered, and the activity status is set to **Stopped**. This indicates that you have stopped the activity.
  - If the activity status is **Stopped** and you click **Start** (for the second time), the activity status is reset to **Started** and the actual stop time is cleared.
  - If you click **Complete**, the completion time is registered, and the status is set to **Completed**.
  - When you click **Start**, **Stop** or **Complete** option, the data synchronization with Infor LN is only triggered immediately if the **Send and receive data when pausing or completing an activity** field is set to Yes on the **Send/Receive** settings.
- Completing an activity by clicking the option **Complete**. The status of the activity changes to **Completed**.
- Start, stop, or complete multiple activities at once. To enable this functionality, activate **Schedule setting 'Enable** option to start, stop or complete multiple activities at once'.
- Adding notes to an activity by clicking on the small balloon icon. Specify the note (information) related to the activity and press **Add**.
- Editing a note linked to an activity by clicking on the small text balloon icon. Select the note you want to modify from the list. Add or modify the information and click **Update**.
- Adding an Activity by clicking on the **+** button. Fill the activity description, **Service Type** and optionally the remaining fields and click on **Add Activity**(Windows) or **Save** (Android/iOS).
- Editing an Activity by clicking on the option **Edit**.

  You can move an activity by changing the planned start or finish date/time. When a visit has multiple activities, moving a single activity might cause the visit to be broken up into separate visits. This would happen if a visit to another customer is planned between the remaining and moved activities of the current visit.

  You can change the actual start and finish time of an activity as long as its status is not **Completed**.

Chapter 8: Tasks

This chapter explains the tasks which are to be performed for the current assigned activity. In this section, you can perform basic actions like completing performed tasks and updating the hours spent.

Actions on Tasks

You can perform following actions on the Tasks page of an activity:

- Adding a task by clicking on the **+** button. Select the **Add a Task** option (Windows devices only). Select a Task from the list and fill the remaining fields and click **Add Task** (Windows) or **Save** (Android/iOS).
- Editing a task by clicking on the **Edit** option. You can change the times in the grid by clicking on the - or **+** button.
- Deleting a task by clicking on the **Delete** option. This is not allowed if the task is estimated or already has been approved or processed.
- Completing a task by clicking on the check mark icon (Windows) or on the option **Complete** (Android/iOS).

Chapter 9: Inspections

This chapter explains the inspections which are to be performed for the current assigned activity. In this section, you can perform basic actions like entering inspections.

Open an activity from the activity list by clicking on it. Click on the tab **Tasks and Inspections** (Windows) or **Inspections** (Android/iOS).

Actions on Inspections

You can perform following actions on the **Inspections** page of an activity:

- Adding an inspection by clicking on the **+** button. Select the **Add an Inspection** option (Windows devices only). Specify the required information. Note that the instruction text of the measurement will only appear if instruction text is available for the measurement type. Click **Add Inspection** (Windows) or **Save** (Android/iOS).
- Editing an inspection by clicking on the **Edit** option.
- Deleting an inspection by clicking on the **Delete** option.
- Completing an inspection by clicking on the circle (Windows) or on the option **Complete** (Android/iOS).

Linking a document to an inspection

Execute the following steps to link a document to an inspection:

1. Select the appropriate activity.
2. Select the appropriate inspection.
3. Select the **Documents** option. The **Inspection Documents** screen is displayed.
4. Click the folder button (Windows) or the **+ Documents** button (Android/iOS).
5. Select the document to link.
6. Click **OK** (for Windows devices only).
7. The document is now linked to the inspection and is available in the list. Go back to the **Inspections** screen by clicking the back button.

   Note: To be able to link a document, a document management system must be in place for Infor LN.

Linking a photo to an inspection

Execute the following steps to link a photo to an inspection:

1. Select the appropriate activity.
2. Select the appropriate inspection.
3. Select the **Documents** option. The **Inspection Documents** screen is displayed.
4. Click the camera button (Windows) or the **+ Camera** button (Android/iOS). The standard camera application of the system is started.
5. Take a photo.
6. A window appears displaying the photo. Change the description of the photo if the default name is not appropriate.
7. Press **OK**. The photo is now linked to the inspection and is available in the list. Go back to the **Inspections** screen by clicking the back button.

   Note: To be able to link a photo, a document management system must be in place for Infor LN.

Chapter 10: Register material

This chapter explains the functionality which is used to view and register material costs for a service order.

The material cost lines associated with the current service order activity are displayed on the **Materials** page. For each material cost line, the user can change the quantity and modify the details of a material cost line. The user can click **+** to add new material cost line to the current activity. It is also possible to order materials and have them added as material cost lines. The **Materials** screen displays the materials in the following groups:

- Used Materials.
- Returned Materials.
- Scrapped Materials.
- Ordered materials.
- Rented materials.

For each material in a group the following details are displayed:

- A picture of the Item / Serialized Item (Windows devices only).
- The Item Description and the Serial Number.
- The (actual/estimate) quantity.
- The **+** and **-** buttons to change the quantity.

Actions on Materials

You can perform following actions on the Materials page of an activity:

- Adding a material by clicking on the **+** button. Specify the required information. Click **Add Material** (Windows) or **Save** (Android/iOS).
- Editing a material by clicking on the **Edit** option.
- Deleting a material by clicking on the **Delete** option. Note that it is not allowed to delete estimated materials.
- Using a material by clicking on the **use** icon (Windows) or **Use** button (Android/iOS).

Note:

- The quantity needs to be filled in the list of materials and are always cumulative quantities which will be added to or subtracted from the total quantity.
- No quantity needs to be entered in case of serialized items as the quantity is always one.

- You might not have authorization for some warehouses dependent on the settings in your Service User Template.

Material Groups

You can find the following material groups in Mobile Service:

- Used Materials. These are the materials used to perform the activity. Used materials could have been delivered already to the customer location. In this case the used quantity is already filled, and those materials are considered as being used. The source is On Location.

  It is also possible to use materials from the car of the service engineer. The car is usually defined as a warehouse in LN and linked to the car. The source is From Car.

  Used material might be bought in a local store. In this case the source is Local Purchase.
- Returned Materials are materials to be returned from the location of the customer. The source is By Car if this is done by the engineer itself. Otherwise, the source is From Location.
- Scrapped Materials are materials that will be scrapped by the service engineer or the customer. The source is To Scrap.
- Ordered Materials are materials which are ordered and not delivered yet. The source is On Order.
- Rented Materials are the additional equipment items (also called sub-equipment or extra buckets) to be rented out in combination with the main item defined on the activity. These rented materials cannot be added, changed, or deleted. This group is only visible for rental agreement activities.

Material Delivery Types

In LN a material line always has a delivery type. This field is not directly available in Mobile Service, only indirectly. In Mobile Service, the fields Group and Source are visible. The reason for this is that the delivery type in LN is a field that determines how the materials are shipped. The engineer in Mobile Service can only tell something about the way he uses materials and where he takes them from. He cannot influence the way that LN ships them, only where they are shipped to (location or car).

In this table, you can view the most important mappings between **Delivery Type** in LN, **Group**, and **Source** in Mobile Service for materials, when the materials are created in LN or defaulted from LN.

Delivery Type in LN	Comment	Group	Source
From Car		Used Materials	From Car
From Service Inventory		Used Materials	From Car
From Warehouse	Warehouse is a car.	Used Materials	From Car
From Warehouse	Warehouse is not a car and materials are not yet delivered.	Ordered Materials	On Order

Delivery Type in LN	Comment	Group	Source
From Warehouse	Warehouse is not a car and materials are delivered.	Used Materials	On Location
From Warehouse in Car	Transfer order not yet completed	Ordered Materials	On Order
From Warehouse in Car	Transfer order completed	Used Materials	From Car
From Warehouse by Transport	Materials not yet delivered	Ordered Materials	On Location
From Warehouse by Transport	Materials delivered	Used Materials	On Location
By Purchase Order	Warehouse is a car.	Used Materials	From Car
By Purchase Order	Warehouse is not a car and materials are not yet delivered.	Ordered Materials	On Order
By Purchase Order	Warehouse is not a car and materials are delivered.	Used Materials	On Location
Supplier Direct Delivery	Materials not yet delivered.	Ordered Materials	On Order
Supplier Direct Delivery	Materials are delivered.	Used Materials	On Location
By Field Purchase		Used Materials	Local Purchase
To Scrap		Scrapped Materials	To Scrap
To Warehouse	Warehouse is a car.	Returned Materials	By Car
To Warehouse	Warehouse is not a car.	Returned Materials	From Location
Supplier Direct Return		Returned Materials	From Location
From Customer's Inventory		Used Materials	From Customer's Inventory

In this table, you can view the most important mappings between **Material Group** and **Source** in Mobile Service and the **Delivery Type** in LN, when the materials are created in Mobile Service.

Group	Source	Comment	Delivery Type in LN
Used Materials	From Car	Default Delivery Type in LN is From Service Inventory	From Service Inventory

Group	Source	Comment	Delivery Type in LN
Used Materials	From Car	Default Delivery Type in LN is not From Service Inventory	From Car
Order Material	On Order	‘Deliver Materials to’ in the App is Service Car	From Warehouse in Car
Order Material	On Order	'Deliver Materials to’ in the App is To Location and Default delivery type in LN is: • From Warehouse • From Warehouse by Transport • Purchase Order • Supplier Direct Delivery	Default Delivery Type in LN
Order Material	On Order	'Deliver Materials to’ in the App is To Location and Default delivery type in LN is NOT: • From Warehouse • From Warehouse by Transport • Purchase Order • Supplier Direct Delivery	From Warehouse
Used Materials	Local Purchase		Field Purchase
Returned Materials	By Car		To Warehouse
Returned Materials	From Location		To Warehouse
Scrapped Materials	To Scrap		To Scrap
Used material	From Customer's Inventory		From Customer's Inventory

Note:

- If you add new materials in Mobile Service, you need to specify the **Material Group** and **Source**. Dependent on this information and the default delivery type from Item Service Data in LN the resulting delivery type of the material line in LN will be determined.
- It might be the case you do not have authorization for some delivery types dependent on the settings in your Service User Template.

Updating Physical Breakdown through Service Order Materials

This functionality is available in Mobile Service with LN 10.5 and higher version as well as LN CE. In LN physical breakdowns can be updated based on removed, replaced, and newly installed materials registered on the service order.

In Mobile Service there are two ways in which materials can be registered to update the physical breakdown:

1. By opening the physical breakdown page in the context of a service order and visually adding items to the physical breakdown, removing items from the physical breakdown, and replacing items in the physical breakdown.
2. By adding used, returned, or scrapped materials and entering the**Replacement For**, **Parent Item**, **Parent Serial Number** and **Position** fields in the material detail screen. Refer to the documentation of the material cost session in LN for guidance on how to set these fields.
   Note: Remember to click the **Use** button on the material in the materials list to confirm the material usage; otherwise, the material change will not be applied to the physical breakdown

To open the physical breakdown page in the context of a service order:

- Navigate to the Materials page of the activity for which these materials should be registered.
- Click the **Physical Breakdown** option. This can be done for a selected material or without selecting a material.
  Note: You need authorization to view and make changes to physical breakdowns through materials on the service order in Mobile Service. See options **Update Physical Breakdown from Service Order Material** and **Show Physical Breakdown** in **Service User Templates** (tsmdm1160m000) session.

At the top of the page the service order and activity from where the physical breakdown page was opened are shown. The presence of these fields is an indication that the physical breakdown page is opened in a service order context. These fields can be dismissed to show the current physical breakdown. Materials are only added and updated for the service order when the page is in the service order context. When the physical breakdown is not displayed in the service order context any changes done are direct changes to the physical breakdown and no materials will be registered for a service order activity.

When the physical breakdown page is in the service order context, the displayed physical breakdown shows the installed, removed, and replaced items for the entire service order, not just from the activity from which the physical breakdown page was opened.

- To install an item:

  Windows: select the item in the physical breakdown under which the item needs to be installed.

  This is the parent item. Click the **Install** option. Specify the required information. Click **Install**.

  Android/iOS: drill down on the parent item under which the item needs to be installed. The item is now shown in the top of the screen. Select option **Install** from the context menu of the item. Specify the required information. Click **Save**.

- To remove an item:

  Windows: select the item in the physical breakdown. Click the **Remove** option. Specify the required information. Click **Remove**.

Android/iOS: select option **Remove (Returned)** or **Remove (Scrapped)** from the context menu of the item that you want to remove. Specify the required information. Click **Save**.

- To replace an item:

  Windows: select a removed item in the physical breakdown. Click the **Replace** option. Specify the required information. Click **Replace**.

  Android/iOS: select option **Replace** from the context menu of a removed item. Specify the required information. Click **Save**.

- To edit an item:

  Windows: select the item in the physical breakdown. Click the **Edit Removal**, **Edit Replacement** or **Edit Installation** option.

  Android/iOS: select option **Edit Removal (Returned)**, **Edit Removal (Scrapped)**, **Edit Replacement** or **Edit Installation** from the context menu of the item you want to edit.

- To undo changes:

  Windows: select the item in the physical breakdown. Click the **Undo Removal**, **Undo Replacement** or **Undo Installation** option.

- Android/iOS: select option **Undo Removal**, **Undo Replacement** or **Undo Installation** from the context menu of the item for which you want to undo changes.

The materials corresponding to the physical breakdown changes will be registered on the service order. These materials can be seen in the Materials screen. Click the back button in the Physical Breakdown screen to go back to the Materials screen. An installed or replaced item results in a used material. A removed item results in a scrapped or returned material.

The physical breakdown changes that are applied in a service order context are actualized once the activities are completed or costed.

Chapter 11: Travel Time and Other Costs

This chapter explains the Travel Time and Other Costs functionality which can be used to register miscellaneous cost for a service order. The cost lines with several cost types such as tool, travel and other are also displayed. Note that the Travel Time and Other Costs on non-Windows devices are viewed on separate tabs.

Actions on Travel Time

You can perform following actions on the **Travel Time** page of an activity:

- Adding travel time by clicking on the **+** button. Select the **Add Travel Time** option (Windows devices only). Specify the required information. Click **Add Travel Time** (Windows) or **Save** (Android/iOS).
- Editing travel time by clicking on the **Edit** option.
- Deleting travel time by clicking on the **Delete** option. Note that deletion might not be allowed dependent on the status in Hours Accounting.
- Completing travel time by clicking on the check mark icon (Windows) or on the option **Confirm** (Android/iOS).

Actions on Other Costs

You can perform following actions on the **Other Costs** page of an activity:

- Adding other costs by clicking on the **+** button. Select **Travel Distance**, **Callout Charge** or **Other Costs** and specify the required information. Click **Add Cost** (Windows) or **Save** (Android/iOS).
- Editing other costs by clicking on the **Edit** option.
- Deleting other costs by clicking on the **Delete** option. Note that deletion might not be allowed dependent on the status in LN.
- Completing other costs by clicking on the check mark icon (Windows) or on the option **Confirm** (Android/iOS).

Chapter 12: Diagnosis

This chapter explains the Diagnosis functionality which is used to modify the diagnosis information for a service order activity. The information such as the reported problem, expected problem and solution, actual problem and solution codes (and/or description), text fields for the problem and solution and note are displayed. The information specified on this page can be used for problem and solution analysis and statistics.

The **Diagnosis** page displays these details:

- Service Order header text.
- Reported problem. This is the problem (code) as reported by the customer.
- Expected problem. This is the expected problem as specified by the person receiving the service call.
- Expected solution
- Actual problem
- Actual solution
- Diagnosis notes

Note:

- The **Reported Problem**, **Expected Problem**, and **Expected Solution** are applicable only if the service order activity is linked to a service call. Else, these fields are not visible.
- The **Reported Problem**, **Expected Problem**, **Expected Solution**, **Actual Problem**, and **Actual Solution** are visible only if the **Diagnostics** field is selected in the **General Service Parameter** (tsmdm0100m000) session.
- If the status of the activity is **Assigned**, **Declined** or **Completed**, this page is a display page.
- You cannot modify notes specified by other service engineers.
- The **Diagnosis** page is not available for rental agreement activities.

Actions on Diagnosis

You can perform following actions on the Diagnosis page of an activity:

- Fill the **Actual Problem** and **Actual Solution** and their related texts.
- Click on the **Note** icon to add or edit notes.

Chapter 13: Documents

This chapter explains the Documents functionality.

You can use the **Documents** page to download, upload and view documents such as installation manuals, technical drawings, and pictures. These documents are stored in a Document Management System (DMS). The documents are related to service orders, service order activities, inspections, items, serialized items, reference activities and calls.

There are several Documents pages in the app:

- **Visit Documents**

  This page can be accessed by opening a **Visit** page and selecting the **Documents** tab. It contains the documents related to the service order of the visit. It displays all documents linked to the order, and to the related activities, inspections, reference activities and items. It also displays the finalized visit report.

  Documents are linked to the service order when documents are uploaded from this page.

- **Activity Documents**

  This page can be accessed by opening an **Activity** page and selecting the **Documents** tab. It contains the documents related to the service order activity. It displays all documents linked to the activity, and to the related inspections, reference activities and items.

  Documents are linked to the service order activity when documents are uploaded from this page.

- **Inspection Documents**

  This page can be accessed by selecting the **Documents** option for an (selected) inspection. It contains the documents linked to the inspection. The 'documents' icon on the inspection record indicates if there are any documents for the inspection.

  Documents are linked to the inspection when documents are uploaded from this page.

- **Call Documents**

  This page can be accessed by selecting the **Documents** option for a (selected) call. It contains the documents linked to the call. The 'documents' icon on the call record indicates if there are any documents for the call.

  Documents are linked to the call when documents are uploaded from this page. This functionality is available in Mobile Service with LN 10.5 and higher version as well as LN CE.

The Document Management HUB is used to integrate Mobile Service with the Document Management System (IDM or ODM). If the Document Management HUB is not configured for Mobile Service in Document Mapping (ttdms3550m100), the Document screen is not visible, and documents cannot be viewed, downloaded, or uploaded in Mobile Service.

Note: Every time the application is started, DMS integration with LN, is checked.

Actions on Documents

You can perform following actions on the **Document** page:

- Attach a document

  Windows: Click the file explorer button or the camera button.

  Android/iOS: Tap the plus (**+**) button and then the file explorer button or the camera button.

  Browse and select the document or take a picture with the camera.

  Note: The document is available in the Document Management System after synchronization.
- Download a document

  Windows: Click the download icon or select the document and click the **Download** option.

  Android/iOS: Tap the download icon or select the **Download** option from the context menu.

  Note: Documents can also be downloaded automatically. Refer to chapter 4 paragraph Documents Setting for details.
- View a document

  View a downloaded document or locally created document by clicking or tapping the document record.
- Search a document

  Search for a document by specifying a text in the Search box.

  Windows: The Search box is located at the top of the screen.

  Android/iOS: The Search box can be activated by clicking the magnifying glass.
- Sort documents

  Sort the documents by name, date, type, or object hierarchy.

  Windows: The **Sort By** option is located at the top of the screen.

  Android/iOS: The **Sort By** option is located in the context menu at the top right corner.

Document status

An icon in the document list shows the status of each document:

- If the status icon contains a down arrow, the document is available in the Document Management System but not yet on the local device. You can click or tap the icon to download the document.
- If the status icon contains an up arrow, the document is not yet available in the Document Management System but only on the local device. This can only be the case for documents locally created by the service engineer. The document will be available in DMS after synchronizing.
- If the status icon contains a full document box (Windows) or a paperclip (Android/iOS), the document is available in the Document Management System and on the local device.

Chapter 14: Visit Report

This chapter explains the visit report. It can be generated after the completion of the work on a visit. The activities that are done by the engineer are printed on the visit report, including cost lines. Cost lines are for example used materials, labor (tasks) done, travel time and other costs. Performed inspections, notes and a diagnosis can also be printed on the visit report. The engineer and the customer can sign the report before it is finalized. After finalizing the report, it is uploaded to LN and can be viewed in the **Service Order Visits** (tssoc2501m000) session.

Visit Report Layout

The layout of the generated visit report and its contents is based on a visit report template. A default visit report template is supplied with Mobile Service, but it is also possible to customize the visit report template. Refer to Appendix B and C for creating a customized visit report template.

The layout of the default visit report includes amongst others:

- The service department address, service order, date and assigned engineer
- The location address
- The comments from the engineer and the customer
- The signatures of the engineer and the customer

For each activity, the default visit report contains:

- The activity description
- The used materials
- The labor details
- The other Costs details
- The diagnosis information

The cost lines contain quantities or hours and may also contain amounts. The value of the costs amounts is not displayed if a coverage is applicable. In this case the coverage reason is displayed (Warranty, Contract, Quotation or Discount). Amounts of material costs are not displayed if the logistic procedures are not yet completed in LN, such as the issue from inventory. In this case the amount is displayed as Unavailable.

Viewing a Visit Report (Windows)

To view the visit report before finalizing it:

1. Navigate to the **Visit** page.
2. Click on the **Report** tab.
3. Select the activities you want to include.
4. Click **Confirm**. The visit report is displayed on the screen.

   Note: If the visit is already finalized, the report is shown as soon as you click on the **Report** page.

Viewing a Visit Report (Android/iOS)

To view the visit report before finalizing it:

1. Tap on the **Visit**.
2. In the context menu select **Create Visit Report** option.
3. Select the activities you want to include.
4. Click **Confirm**. The visit report is displayed on the screen.

   Note: If the visit is already finalized, you can view the report by selecting **View Visit Report** in the context menu.

Creating a Visit Report (Windows)

This paragraph describes the process to create a visit report when signing of the visit report is mandatory. Signing of the visit report might also be optional or not applicable. Some or all steps described here do not apply then. See Optional Signing of the Visit Report on page 42 for more information.

To create the report for a visit:

1. Navigate to the **Visit** page.
2. Click on the option **Report**.
3. Select the activities you want to include and change the report language, if required.

   Note: Only completed activities are displayed of the service engineer himself. Activities of other service engineers can also be displayed depending on visit report setting **Allow activities of other service engineers to be included in the visit report**.The displayed activities of other service engineers can also be uncompleted activities. Activities of other service engineers can only be included in the visit report if the other service engineers have completed their activities. The completed activities must have been synchronized with LN by the other service engineers and the resulting changes in LN must subsequently have been synchronized with the Mobile Service app of the service engineer creating the visit report.
4. Click **Confirm**. The visit report is displayed on the screen.
5. Click on the **Signature** icon.

6 Click **Sign Off** option located below the Engineer signature section or click on the Engineer Signature box. This starts the **Sign Off** section. Specify the following information:

Engineer Signature
Sign in the **Engineer Signature** text box. You can click **Undo** to clear the signature.

Comment
Specify the additional information, if any.

7 Click **OK**.

8 Click **Sign Off** option located below the **Customer signature** section or click on the **Customer Signature** box. This starts the **Sign Off** section. Specify the following information:

Customer Signature
Sign in the **Customer Signature** text box. You can click **Undo** to clear the signature.

Customer Representative Name
Specify the name of the customer representative.

Comment
Specify the additional information, if any.

9 Click **OK**.

10 The signatures appear in the right pane after both the engineer and the customer confirm the signatures. Click on the **Finalize** option.

The signatures, names and comments are displayed on the visit report and a pdf of the visit report is generated. No changes can be made to this document anymore and the **Signature** option on the visit report screen is disabled.

Creating a Visit Report (Android/iOS)

This paragraph describes the process to create a visit report when signing of the visit report is mandatory. Signing of the visit report might also be optional or not applicable. Some or all steps described here do not apply then. See Optional Signing of the Visit Report on page 42 for more information.

To create the report for a visit:

1 Navigate to the **Visit** page.

2 Click on the option **Report**.

3 Select the activities you want to include.

Note: Only completed activities are displayed of the service engineer himself. Activities of other service engineers can also be displayed depending on visit report setting **Allow activities of other service engineers to be included in the visit report**.The displayed activities of other service engineers can also be uncompleted activities. Activities of other service engineers can only be included in the visit report if the other service engineers have completed their activities. The completed activities must have been synchronized with LN by the other service engineers and the resulting changes in LN must subsequently have been synchronized with the Mobile Service app of the service engineer creating the visit report.

4 Click **Confirm**. The visit report is displayed on the screen.

5 Change the report language if required.

6 Click on the **+** icon and choose **Engineer Signature**. This starts the **Sign Off** section of the engineer. Specify the following information:

Engineer Signature
Sign in the **Engineer Signature** text box. You can click **Clear** to clear the signature.

Comment
Specify the additional information, if any.

7 Click **Save**.

8 Click on the **+** icon and choose **Customer Signature**. This starts the **Sign Off** section for the customer. Specify the following information:

Customer Signature
Sign in the **Customer Signature** text box. You can click **Undo** to clear the signature.

Customer Representative Name
Specify the name of the customer representative.

Comment
Specify the additional information, if any.

9 Click **Save**.

10 The signatures appear in the visit report. Click on the **Finalize** option. No changes can be made to this document anymore and the **Finalize** option on the visit report screen is disabled.

Optional Signing of the Visit Report

Optional signing of the visit report is available for Mobile Service with LN 10.6 and higher versions and LN CE. Solution KB 2267559 must be installed.

With this functionality it is possible to make the signing of the visit report optional for the service engineer and/or the customer, or to always finalize the visit report without signing by the service engineer and/or customer.

There are two parameters available in the Mobile Service Parameters (tssoc0102m000) that influence this functionality:

- Visit Report Signing by Service Engineer
- Visit Report Signing by Customer

Note: In a multi-site environment, these parameters can also be defined by office in session Mobile Service Settings by Office (tsmdm1100m000).

Both parameters can be set to one of the following values:

- Mandatory: When this value is selected the signing of the visit report is mandatory for the service engineer or customer.

- Optional: When this value is selected the signing of the visit report is optional for the service engineer or customer.
- Never: When this value is selected the signing of the visit report cannot be done by the service engineer or customer. It is still be possible for the service engineer or customer to add comments to the visit report.

Finalizing of the visit report can only be done when both parameter settings are met. So, for example, if **Visit Report Signing by Service Engineer** is set to **`Mandatory`** and **Visit Report Signing by Customer** is set to **`Optional`**, the visit report can be finalized when at least the service engineer has signed. The customer can also sign, but this is not necessary.

After the visit report is finalized and synchronized with LN, the **Signed By** field in **Service Order Visits** (tssoc2501m000/tssoc2501m100) session displays whether the visit report was signed by the service engineer, the customer, by both or by none.

Visit Reports and Visit Documents

As soon as a visit is finalized and synchronized, its visit report is uploaded to LN and visible in session **Service Order Visits** (tssoc2501m000). The name in **Service Order Visits** is **Uploaded Visit Report** to distinguish this report from the **Service Order Visit Document**. A **Service Order Visit Document** is the output of session **Print Service Order Visit Documents** (tssoc2401m000).

Windows (up to solution 2169843)

1. The **Uploaded Visit Report** is a pdf document based on the visit report template and is created and uploaded when finalizing the visit.
2. If the parameter **Visit Report for Mobile Service on Windows (up to solution 2169843)** in **Mobile Service Parameters** (tssoc0102m000) session is based on **Visit Report Template**, then:
   a. The uploaded visit report is stored in Service Order Visits in LN.
   b. The uploaded visit report is sent to the Document Management System, if applicable.
   c. The uploaded visit report is distributed via Document Output Management, if applicable.
3. If the parameter **Visit Report for Mobile Service on Windows (up to solution 2169843)** in **Mobile Service Parameters** (tssoc0102m000) session is based on **Standard Report in LN**, then:
   a. The uploaded visit report is stored in Service Order Visits in LN.
   b. Session **Print Service Order Visit Documents** is used to generate automatically a Visit Document in pdf format when finalizing the visit.
   c. The generated visit document is sent to the Document Management System, if applicable.
   d. The generated visit document is distributed via Document Output Management, if applicable.

Android/iOS (up to solution 2169843)

1. The Uploaded Visit Report is a fixed html document and is created and uploaded when finalizing the visit.
2. The uploaded visit report is stored in Service Order Visits in LN.
3. Session **Print Service Order Visit Documents** is used to generate automatically a Visit Document in pdf format when finalizing the visit.
4. The generated visit document is sent to the Document Management System, if applicable.

5 The generated visit document is distributed via Document Output Management, if applicable.

Note:

- The visit report or visit document (dependent on the device or the parameter) that is stored in the Document Management System is visible in the **Documents** page of Mobile Service.
- Only the generated visit document can be distributed via Document Output Management (DOM). The uploaded visit report containing the signatures cannot be distributed via DOM.

Windows/Android/iOS, as per solution 2169843

1 The Uploaded Visit Report is a pdf document based on the visit report template and is created and uploaded when finalizing the visit.

2 If the parameter **Visit Report for Mobile Service** in **Mobile Service Parameters** (tssoc0102m000) session is based on Visit Report Template, then:

- **a** The uploaded visit report is stored in Service Order Visits in LN.
- **b** The uploaded visit report is sent to the Document Management System, if applicable.
- **c** The uploaded visit report is distributed via Document Output Management, if applicable.

3 If the parameter **Visit Report for Mobile Service** in **Mobile Service Parameters** (tssoc0102m000) session is based on Standard Report in LN, then:

- **a** The uploaded visit report is stored in Service Order Visits in LN.
- **b** Session Print Service Order Visit Documents is used to automatically generate a Visit Document in pdf format when finalizing the visit.
- **c** The generated visit document is sent to the Document Management System, if applicable.
- **d** The generated visit document is distributed via Document Output Management, if applicable.

Chapter 15: Hours

From the menu you can start the Hours overview. This view displays all the registered hours on service orders and all the registered General Hours by week. In the Settings View, you can specify the number of weeks in the past and in the future for which you would like to view the hours.

In the header the total number of booked hours and the employment hours are displayed. All the hours already registered for that week and the totals for each day of the week, are also visible.

It is possible to add or change General Hours by clicking on the plus sign. The fields general task, labor type, day of the week and duration are mandatory fields and cannot be left empty.

It is not possible to add or change service hours. That needs to be done on the service order itself in Mobile Service.

Chapter 16: Inventory

This chapter explains the Inventory functionality. This includes:

- Bench Stock
- Inventory by item
- Inventory by Warehouse

Bench Stock

This section explains the Bench Stock functionality. From LN 10.5 onwards, this functionality can be disabled or enabled by (de)selecting the **Show Bench Stock** option in LN session **Service User Templates (tsmdm1160m000/tsmdm1660m000)**.

Bench Stock items are items for which the **Delivery Type** field in the **Service Control** group box is set to **From Service Inventory** in the **Items - Service** (tsmdm2100m000) session.

Note: Usually inventory management is not required for such items. See the **Inventory Management for Bench Stock** check box for service employee's **Service Car** field.

The header displays a list of authorized warehouses for the service engineer. By default, the warehouse linked to a service engineer's car, is displayed. The last selected warehouse will be displayed next time you open this screen.

To order bench stock items using Mobile service:

1. Specify the required quantity in the **Quantity** field of the items which require additional stock.
2. Click **Order Now**. By default, the synchronization process is started so orders are immediately transferred to Infor LN. To prevent the synchronization, you must clear the **Send and receive data when ordering bench stock** check box on the **Send/Receive** tab in the **Settings** view.
3. Infor LN creates a manual warehouse transfer order to transfer the ordered items from the central warehouse to the car. The **On Order** quantity field displays the quantity that is already ordered.

Within the **Bench Stock** tab, it is possible to search through the bench stock or to filter on bench stock that is on order.

On Windows, click the **Search** icon to activate the search and the filter. On Android/iOS tap the **Search** icon to activate the search or tap the drop-down icon to select the filter.

Inventory by Item or Warehouse

To view the inventory by item or by warehouse, select the applicable option in the **Inventory** screen. You can view the **On Hand** and the **On Order** inventory available for the selected item or warehouse.

Note:

- Inventory data is displayed based on the last synchronization date.
- Inventory data is only visible if the **On Hand** or the **On Order** quantity is unequal to zero.
- The inventory screens are only displayed if option **Item Inventory** is checked in session Service User Templates (tsmdm1160m000). If you do not use the inventory screens then it is advised to uncheck this option, as it saves storage space on the device and improves performance of the app.
  Note: This option is available from LN CE 2019.09 onwards. For older releases, a different solution is available. See KB 2047213 on the Infor Support Portal.

Within the **Inventory** tabs, it is possible to search through the inventory. Click the **Search** icon to activate the search option.

Chapter 17: Ordered Materials

The **Ordered Materials** screen displays detailed information about the ordered materials by service order and the ordered materials by service car. It will be available in the application when the **Show Ordered Materials** option is selected in the Service User Template (tsmdm1660m000).

You can start Ordered Materials from the main menu, or via the bottom bar (Windows)/context menu (Android/iOS) of the following screens:

- (My) Schedule screen
- Activity - Materials screen
- Inventory - Bench Stock screen

Ordered Materials by Service Order

Displays the ordered materials by service order. When materials are ordered for a service order activity (for example in the Activity – Materials screen), then detailed information per ordered material can be viewed here.

The ordered materials are grouped by service order and the service orders are sorted by planned start date. Each ordered material line shows the ordered item, the ordered quantity, received and/or shipped quantity, planned receipt date and status, amongst other.

To view additional information, like ship-from/ship-to information and related order data, select a material line.

To filter the ordered materials, on for example order number or status, select the magnifying glass.

Ordered Materials by Service Car

Displays the ordered materials by service car. When materials are ordered for a service car (for example in the Bench Stock screen or via TPOP), then detailed information per ordered material can be viewed here.

Select a service car warehouse to view the ordered materials for that service car warehouse. The materials are sorted by item and planned receipt date. Each ordered material line shows the ordered item, the ordered quantity, received and/or shipped quantity, planned receipt date and status.

To view additional information, like ship-from information and order data, select a material line.

To filter the ordered materials on for example item or status, select the magnifying glass.

Note: The ‘Ordered Materials’ functionality in Mobile Service is available from LN 10.5 onwards.

Chapter 18: Calls

This chapter explains the Calls functionality. You can use calls to notify the back office of:

- Additional work
- Opportunities at customer site
- Any other communications

All calls you have created and which status is not yet **Solved** or **Accepted** will be visible in the list.

You can perform following actions:

- Adding a call by clicking the **+** button. Specify all required information and click on **Add Call** (Windows) or on **Save** (Android/iOS). Note that the **Reported Time** is defaulted with the current date and time.
- Editing a call by clicking the option **Edit** for a selected call. Specify the modifications and click on **Update Call** (Windows) or on **Save** (Android/iOS). Note that you can only update Calls with status **Registered**, **Assigned** or **In Process**. The reported time cannot be modified after the call has been synchronized with Infor LN.
- Deleting a call clicking the option **Delete** for a selected call. A call can only be deleted if its status is **Registered**.

Chapter 19: Serial History

This chapter explains the Serial History for orders and inspections. You can access the serial history overview from the menu. Alternatively, serial history can be started from the Serial History icon (like a clock with a reverse arrow) which is displayed on several pages where a serial number is visible.

The serial history overview includes:

- Serial history for orders
- Serial history for inspections

When serial history is activated from the menu, the user must enter an item and serial number. After both are entered, the history is shown. Notice that only the history of serialized item is available for serialized items which are referenced in any visit in your schedule and only then when in the settings serial history is set to automatically download data.

If no history is shown it is possible to manually retrieve the data by clicking the **Refresh** button in the upper right part of the screen. This requires an active connection to Infor LN.

Note: Serial History for orders is only displayed for service orders with status **`Completed`**, **`Costed`**, or **`Closed`**.

If the history icon from any other screen is used to go to serial history, the serial number from that screen is used to activate the serial history filter.

- Windows Devices: The Serial History for Orders is displayed in an hierarchical view for each order. Each order can be expanded to show its related activities. Each activity can be expanded to show its related inspections, tasks, materials and other costs. Right click on any data part of the serial history list to open a pane with additional information related to the selected data.
  Note: Inspections that are not order related can be viewed in the **Serial History for Inspections** view.
- In Android/iOS devices, open the history record to show a report of the serial history and additional information.

The **Serial History for Inspections** view only shows individual inspections. In this view the inspections which are not related to any order, are also shown.

Chapter 20: Installations and Serials

This chapter explains the Installation and Serials or Serialized Items functionality. From LN 10.5 onwards, the Installations functionality can be disabled or enabled by (de)selecting the **Show Installations** option in LN session **User Templates (tsmdm1660m000/ tsmdm1660m000)**.

Installations

You can start the Installations overview:

- from the menu, or
- by selecting a visit and then selecting option **Installations** from the bottom bar (Windows)
- by selecting option **Installations** in the context menu of a visit (Android/iOS)

It shows all installations for a selected business partner. An installation is a top serialized item in LN linked to the selected business partner.

The installations are shown by installation group, if applicable. If an installation is not part of any installation group, it is shown as a top serialized item.

You can perform the following actions:

- Showing all installations for an installation group by clicking on the **Expand** icon.
- Linking an installation to an installation group by selecting an installation group and clicking the **Add** option.
- Linking an installation to an installation group by selecting a top serialized item and clicking the **Add** option.
- Editing an installation by selecting an installation and clicking the **Edit** option.
- Removing an installation from an installation group by selecting an installation group and clicking the **Remove** option.

Note: You need authorization for adding and removing installations. See option **Update Installations** in **Service User Templates** (tsmdm1160m000) session.

Serials

Serials or Serialized Items can be used throughout Mobile Service. In general, the following applies:

1. A serialized item is a combination of an item and a serial number.
2. If you select an item in the item drop-down, only the serial numbers of the selected item are available in the serial number drop-down.
3. If you leave the item blank, the serial number drop-down contains all serial numbers of the system. This way you can find a serial if you do not know the item.
4. If you have authorization to create new serial numbers in Mobile Service (See option **Create Serials** in session **Service User Templates**) a **+** icon or **Add** button behind the serial is shown. Use this option to create a new serialized item.

Chapter 21: Physical Breakdown

This chapter explains the physical breakdown functionality. This functionality of Mobile Service is available from LN 10.5 onwards and can be enabled by selecting the **Show Physical Breakdown** option in LN session Service User Templates (tsmdm1160m000/tsmdm1660m000). Optionally, **Authorized to Update Physical Breakdown** can be selected.

The Physical Breakdown screen allows you to perform the following actions:

- Find the physical breakdown of any serialized item.
- Navigate through the different levels of a physical breakdown.
- View the detailed information of the items of a physical breakdown.
- Change a physical breakdown by adding, removing or changing an item.

The Physical Breakdown screen can be accessed in the following ways:

- Via the menu.

  After opening the Physical Breakdown screen enter an item and serialized item. The physical breakdown is displayed if exists.
- By drilling down from serialized installations in the Installations screen.

  Windows: Select the installation and click the **Physical Breakdown** option in the bottom bar.

  Android/iOS: Select **Physical Breakdown** option from the context menu.
- By drilling down from top serialized items in the Installations screen.

  Windows: Select the item and click **Physical Breakdown** option in the bottom bar.

  Android/iOS: Select the **Physical Breakdown** option from the context menu.
- By drilling down from every object in the app where serialized items are being used.

  Windows: Select the object that contains the serialized item and click the **Physical Breakdown** option in the bottom bar.

  Android/iOS: Select the **Physical Breakdown** option from the context menu of the object.

  Note: When the physical breakdown is opened from the Materials screen, it will be opened in the context of the service order when option **Update Physical Breakdown from Service Order Material** in session **Service User Templates** (tsmdm1160m000) session is set. When this is the case, direct changes to the physical breakdown are not possible. Instead, other options are available. Through these options items can be removed, removed items can be replaced and items can be installed. For more details on this option see paragraph **Updating Physical Breakdown through Service Order Materials** in chapter **Register Material**.

Navigating through the Physical Breakdown screen and changing the physical breakdown

Windows devices:

To expand an individual item to show its child items, click on the expand option. Alternatively, expand or collapse all child items by using the Expand and Collapse icons in the bottom bar.

To show the physical breakdown of the top serialized item to which the selected serialized item belongs, click the **Top Item** icon in the bottom bar.

To add an item to the physical breakdown, select the serialized item you want to add a child item to and click **Add** in the bottom bar.

To delete an item (including its child items) from the physical breakdown, select the item and click **Delete** in the bottom bar.

To change an item, select the item, and click **Edit** in the bottom bar.

To drill down to the serial history of a selected serialized item, click **Serial History** in the bottom bar.

Note: You can only change a physical breakdown in Mobile Service if the **Authorized to Update Physical Breakdown** option is selected in the **Service User Template (tsmdm1160m000/tsmdm1660m000)** that is linked to your **Service User Profile (tsmdm1150m000)**.

Android/iOS devices:

To navigate upwards and downwards through the physical breakdown use the left and right arrows on the root item and child items of the physical breakdown.

To show the parents of an item all the way up to the top serialized item select the **Show Parents** option from the context menu, and optionally navigate to any parent level.

To add an item to the physical breakdown, select **Add** from the context menu of the serialized item to which you want to add a child item.

To delete an item (including its child items) from the physical breakdown, select **Delete** from the context menu of the item that you want to delete.

To change an item, select **Edit** from the context menu of the item that you want to change.

To drill down to the serial history of a serialized item, select **Serial History** option from the context menu of that item.

Note: When the physical breakdown is opened from the Materials screen, it will be opened in the context of the service order when option **Update Physical Breakdown from Service Order Material** in session **Service User Templates** (tsmdm1160m000) session is set. When this is the case, direct changes to the physical breakdown are not possible. Instead, other options are available. Through these options items can be removed, removed items can be replaced and items can be installed. For more details on this option see paragraph **Updating Physical Breakdown through Service Order Materials** in chapter **Register Material**.

Appendix A: User Interface and Navigation

This user guide is meant for Mobile Service, independent on the device on which it is running. The user interface and the navigation could however be different on several devices. Mobile Service is available for Windows, Android and iOS.

Mobile Service on Windows

On Windows, Mobile Service needs to be installed on your laptop or tablet with the setup file provided by your Administrator. The following information is important from a user interface and navigation perspective.

Top Bar

- Click the **Menu** icon with the three horizontal lines to open the top bar.
- Navigate to **Schedule**, **Hours** or any other view.
- Click on the **Synchronization** button to perform a manual synchronization.

Information Panes

Information panes are displayed throughout the application. An information pane provides the additional details, of the active screen. For example, in the **Visit** screen, the information pane displays the Sold-to Contact and the Ship-to Contact details related to the visit. To view an information pane, click **(i)** in any screen, click the arrow option to collapse the information pane.

Route Navigation

Addresses are shown on several places in Mobile Service. You can navigate to Open Street Map or Windows Maps by clicking the small ‘location pin’ icon.

Selecting a row:

- Mouse: Right-click on the row.
- Touch: Tap and hold the row.
- Stylus: The equivalent for right-clicking the mouse.

Selecting a row changes the view to Selection Mode and displays the options in the bottom bar that can be applied to the row.

Selecting multiple rows:

First select one row as described above. Then:

- Mouse: Left-click the next row(s).
- Touch: Tap the next row(s).
- Stylus: The equivalent for left-clicking the mouse.

Deselect a row:

- Mouse: Left-click the selected row.
- Touch: Tap the selected row.
- Stylus: The equivalent for left-clicking the mouse.

Alternatives for (de)selecting rows:

- Mouse: Left-click the 3-dotted bar at the bottom of the screen and click **Select All** or **Clear Selection**.
- Touch: Tap 3-dotted bar at the bottom of the screen and tap **Select All** or **Clear Selection**.
- Stylus: Select the 3-dotted bar located at the bottom of the screen and click **Select All** or **Clear Selection**.

Drill down into the details of a row:

- Mouse: Left-click the row.
- Touch: Tap the row.
- Stylus: The equivalent for the left-click of the mouse.

Activating buttons and other action items:

- Mouse: Left-click.
- Touch: Tap.
- Stylus: The equivalent of the left-click of the mouse.

Notifications

Mobile Service can show notifications or alerts, for example in case of synchronization errors. The notification contains a short message to inform you. Note that notifications are not disruptive and will disappear automatically. You can click on some notifications to navigate to the appropriate page.

Object Information

Objects in the app may be underlined. This applies for example to items and serialized items. Detailed information is shown for these objects when clicking/tapping these underlined objects.

Mobile Service on Android/iOS

On Android/iOS devices, Mobile Service needs to be installed on your tablet or phone from the official application store, like Google Play. The following information is important from a user interface and navigation perspective.

Menus and Actions

- Click the **Menu** icon in the homepage to open the main menu. Navigate to **Schedule**, **Hours** or any other view. Inline or in context menus can be activated by clicking on the icons with three dots.
- A single click on any list item opens the linked data.
- Use the **Back** option in Mobile Service or the **Back** button on the device to navigate to the previous page.
- Inserting new data is mostly done via the **+** button in the bottom right corner.
- Editing or deleting data is done via the inline or in context menu and the option **Edit** or **Delete**.

Information Pages

Information pages are available throughout the application. An information page provides the additional details, of the active screen. To view an information page, click **(i)** in the applicable screen.

Route Navigation

Addresses are shown on several places in Mobile Service. You can navigate to the default Map Application on the device by clicking on the small maps icon.

Notifications

Mobile Service can show notifications or toast messages, for example in case of synchronization errors. The notification contains a short message to inform you. Note that notifications are not disruptive and will disappear automatically. You can tap on these notifications to navigate to the appropriate page or display a more detailed message dialog.

Object Information

Objects in the app may be underlined. This applies for example to items and serialized items. The detailed information is displayed for these objects when tapping the corresponding underlined objects.

Appendix B: Creating a Visit Report Template

A visit report is based on a template. The template is composed of the layout of the visit report and placeholders where data from the actual visit is placed. The final report is displayed after the actual visit data is populated in the template.

Mobile Service on Windows uses rich text document (rtf) templates and Mobile Service on Android/iOS uses html templates. On all platforms, the final visit report that is uploaded to LN has a pdf format.

This chapter explains how to create a visit report template. There are differences between html templates and rtf templates. This chapter gives general information which applies to both templates. A more detailed instruction is given for creating the html template and the rtf template specifically.

Note:

Rtf Visit Report Templates for Windows are supported in LN 10.4, 10.5, 10.6 and later versions, including LN Cloud Edition.

Html Visit Report Templates for Android/iOS are supported in LN 10.5, 10.6, and later versions, including LN Cloud Edition.

Defining visit report templates in LN

Visit report templates can be defined in session Visit Report Templates (tsmdm5100m000). It is possible, but not necessary, to define templates for a Sold-to Business Partner and/or Service Office. The default rtf or html template can be imported as visit report template. A template can be downloaded from this session. After downloading the template, it can be changed and then uploaded again in this session. Once the template is uploaded and activated, the template is automatically synchronized to the Mobile Service application.

General structure

A template is very similar to the resulting visit report. It contains the layout, text and images which should be displayed on the visit reports.

The actual visit report will be filled with values which are specific to each visit report. These values can be:

- Data of the visit. For example, the service order code and the various amounts of hours and materials used and the starting time of the visit.

- Labels. Text labels can be used if the text on the visit report is language dependent. The default language for the report is set to the language of the Sold-to Business Partner, or, if this is not defined in LN, the language as set in the Data Display Settings of the application. In the default templates no texts are used. Only labels are used, so these reports can be printed in every language supported by LN. When translation is not required, regular text can be used, and label place holders can be omitted.
- The signatures of the service engineer and customer. In Mobile Service both the engineer and customer can sign the visit report before finalizing it. These signatures can be added as images in the actual visit report.

In the template these values are represented by placeholders. When creating the actual visit report these placeholders are replaced by the data, labels, and signatures of the actual visit.

Besides document data, represented only once on a visit report, each visit can contain multiple activities and each activity can contain multiple labor costs, inspections, material costs, other costs, and notes. Therefore, in addition to placeholders, visit report templates contain data sets. Data sets within the template are sections which can be repeated for every occurrence of the data in the visit.

Placeholders

Placeholders are defined by using text within markers. The markers around the placeholders determine how data is displayed. There are several types of placeholders, each identified by different markers. The first three placeholders are for data, labels, and signatures. For example, the data placeholder for the service order number is ##ServiceOrder##.

There are additional placeholders to define a data set section.

Data sets

The report data consists of several data sets. The template must be composed in such a way that corresponds with these data sets. A visit report has eight data sets.

- Document data
- Activity data
- Material cost data, with a reference to Activity data
- Labor cost, with a reference to Activity data
- Other cost, with a reference to Activity data
- Inspections, with a reference to Activity data
- External Notes, with a reference to Activity data (available with solution 2131466)
- Total Hours per Labor Type

Data sets can hold any type of information such as text or images.

Although materials, labor and other cost are linked to an activity, it is possible to show a single list of all the costs of all the activities of the visit.

Document data set

This data set holds information about the visit and is available over the whole document. This set also contains images. The signature placeholders are the only supported image placeholders.

Activity data set

The activity data set identifier is ‘Activities’. This data set holds data for the activities which are selected by the user when generating the report.

Material cost data set

The material cost identifier is ‘MaterialCost’. This data set holds data of all material cost. These are the costs entered in the Material screen. The display of material cost of one or more activities is based on how the material cost is defined in the template.

Labor cost data set

The labor cost identifier is ‘LaborCost’. This data set holds data of all labor cost. These are the costs entered in the Task screen. The display of labor cost of one or more activities is based on how the labor cost is defined in the template.

Other cost data set

The other cost identifier is ‘OtherCost’. This data set holds data of all other cost. These are the costs entered in the Travel Time and Other Cost screen. Data for both Travel Time and Other Cost are displayed here. The display of other cost of one or more activities is based on how the other cost is defined in the template.

Inspections data set

The Inspections identifier is ‘Inspections’. This data set holds the data of all inspections of an activity. These are the inspections specified in the Inspections screen.

External Notes data set

The External Notes identifier is ‘ExternalNotes’. This data set holds the data of all the external notes of an activity.

Total Hours per Labor Type data set

The Total Hours per Labor Type identifier is ‘TotalHoursPerLaborType’. This data set holds the information about the total hours spent per labor type. It must be used on the document level.

Fixed price

The LN backend supports the fixed price per activity functionality. The report supports fixed price in a basic manner. The fixed price is not a data value which can be placed in the template, but it is represented in the total.

Prices are calculated in the LN backend. These prices are synchronized to the app. If an activity has a fixed price, all individual costs are set to zero. In this way the totals and the grand total would always be zero. The report replaces the totals with the fixed price amount.

In case cost is not calculated as zero, these costs are added to the fixed price amount.

Creating a Rich Text Document Visit Report Template

The template is stored as a rich text document (.rtf). You can create or modify the template using a text processor that supports rtf files.

This user guide uses the layout of the default template in all samples and figures. The complete default template is added in appendix Default Template for Visit Report. The default template is also available in LN in the Visit Report Templates (tsmdm5100m000) session.

Note: The rtf templates are used for LN Mobile Service for Windows, so not for the Android/iOS version. The Android/iOS version uses html templates.

Placeholders rich text document

In rich text document visit report templates, placeholders are defined by using text within markers. There are four types of placeholders. All of them are defined by using text within markers.

Notation	Placeholder Types
<<label name>>	Label
##placeholder name##	Data item from a data set
%%placeholder name%%	Image from a data set
[[data set identifier]]	Data set identifier

Table 1: Example of placeholders:

##DepartmentName##	<<Order>>	##ServiceOrder##
##DepartmentAddress##	<<OrderReference>>	##ReferenceA##
	<<StartTime>>	##StartTime##
	<<ServiceEngineer>>	##Engineer##

In this example <<Order>>, <<OrderReference>>, and so on, are labels (translatable text placeholders). ##DepartmentName##, ##ServiceOrder##, and so on are data items. In this case they are retrieved from the document level data set. As this document data set is generally available, these placeholders can be used anywhere in the document. For a list of all placeholders refer to appendix Placeholders for Visit Report Template on page 70.

The example above can result in the following when the report is generated and the placeholders are replaced with actual data.

NL Service Department	Service Order	SOO001407
Het Torentje	Reference	CUST_B_00012
Binnenhof 19	Start Time	15-8-2016 10:28
2513 AA Den Haag, Zuid Holland	Service Engineer	John Doe
The Netherlands		

Layout

Basically, placeholders can be placed anywhere in the rtf document. So, a construction like *Service order number ##ServiceOrder## has a start date of ##StartDate##* is completely valid.

To be able to align elements, tabs or tables can be used. Tables can be inserted. Columns and or rows can be merged. For instance, a table of two rows with in the first row having one cell and the second row having three cells, is valid.

<<SomeTranslatedText>>		
##FieldA##	##FieldB##	##FieldC##

The layout shown above retrieves Field A, B and C from the document data set.

To be able to display data from any other data set, a layout convention must be followed. All data set dependent placeholders must be inside a table. The data set identifier is key to the layout convention. The identifier must be placed in the first row in the first cell as the first text in this table.

Data set layout convention:

[[DataSetIdentifier]]		
<<HeaderTextA>>	<<HeaderTextB>>	<<HeaderTextC>>
##FieldA##	##FieldB##	##FieldC##

The data set convention defines three or more rows.

- The first row must hold the data set identifier (with [[ ]] markers). See also the data set definitions provided earlier in the document. When the data set identifier is not found, the table is handled as a layout table. See above. The data set identifier row is deleted after the merge is executed.
- The last row is replicated as many times as the data set holds records. Data placeholders of each replicated row is replaced with the corresponding data set record values. If the layout row contains data placeholders which do not correspond with the data set properties, replacement takes place using the parent data set. If no match is found in the parent data set, the placeholder is matched and possibly replaced with the document data set values.
- All other rows are header rows (zero, one or more). The header rows usually contain translatable text placeholders (<< >>). If the header rows contain data placeholders, data is replaced from the parent data set. If not applicable, placeholders are replaced with data from the document data set.

The minimum requirement for a data set table is two rows. Header rows are optional.

Example with two header rows:

[[MaterialCost]]			
<<Materials>>			
<<Quantity>>	<<ItemCode>>	<<ItemDescription>>	<<Amount>>
##Quantity##	##Item##	##Description##	##AmountOrCoverage##

Example with no header rows:

[[MaterialCost]]			
##Quantity##	##Item##	##Description##	##AmountOrCoverage##

Nested Layout

To be able to represent parent/child relations, an extra convention is defined. In the case of activities and materials, if materials per activity must be presented, the material table must be nested in the activity table. Data sets have a structure to recognize if used as a child set. Instead of presenting all the material of a visit, only the material for the current activity are presented in the nested material tables.

Note: Be careful when inserting the nested tables in the last row. If more than one table is required (for instance material, labor, and other cost), the tables can be inserted in the same cell with a paragraph ending (just a RETURN) in between. See also the layout of Materials - LaborCost - OtherCost in appendix Default Template for Visit Report on page 77.

In Word, this is easy to accomplish. Set the cursor in a table cell and select 'Add table' from the INSERT tab.

Nested data set layout convention:

[[DataSetIdentifier]]		
<<HeaderTextA>>	<<HeaderTextB>>	<<HeaderTextC>>
##FieldA##	##FieldB##	##FieldC##
[[DataSetIdentifier]]		
<<HeaderTextX>>	<<HeaderTextY>>	<<HeaderTextZ>>
##FieldX##	##FieldY##	##FieldZ##

Nested data set layout example:

[[Activities]]		
<<Activity>> ##Description##		
[[MaterialCost]]		
<<Materials>>		
<<Quantity>>	**<<ItemCode>>**	**<<Description>>**
##Quantity##	##Item##	##ItemDescription##

In the example above a material cost data set [[MaterialCost]] is nested in an activity data set [[Activities]]. The ##Description## is retrieved from the Activities data set. ##Quantity##, ##Item##, and ##ItemDescription## are retrieved from the MaterialCost data set.

Nested data set layout result example:

Activity Repair Box		
Materials		

Quantity	Item Code	Description
6 pcs	AVDK17	Chipboard
3 box	AVDK1501	Nails

Totals

For each data set which represents costs, totals are calculated. In the default template, these totals are presented in the summary paragraph.

The placeholders Totalxxx and GrandTotal display values of all the cost of the selected activities. The detail lines of these costs do not necessarily have to be presented in the report. The TotalDetailxxx and GrandDetailTotal placeholders contain values only from the detail cost lines.

In this way, you can decide to display only the totals without details or display the detail and then displays the totals of these details.

Tools to edit the template

The template must be stored as an rtf file. Microsoft Word can handle this type of file although there are other text processing applications which also can edit this file type. After creating the template, the file must be stored as .rtf document.

Note: Although the layout on the screen might look the same, there are differences between text processors (and the application) in printed output. So, if you use preprinted paper, test the template with real data, saved as pdf.

Tools to edit the template

The template must be stored as an rtf file. Microsoft Word can handle this type of file although there are other text processing applications which also can edit this file type. After creating the template, the file must be stored as .rtf document.

Note: Although the layout on the screen might look the same, there are differences between text processors (and the application) in printed output. So, if you use preprinted paper, test the template with real data, saved as pdf.

Tip: Editing placeholders

When adding or changing placeholders, type out the entire placeholder in one action, do not change any individual characters, as Word sometimes adds some invisible markers in the rtf document. If so, the report merger is not able to interpret the template in the right way, and the placeholder is not replaced in the visit report. For placeholders which are spelled correctly but don't show the merged value, edit the template document, and retype the placeholder from start to finish including the front and end markers.

Tip: Web Layout View in MS Word settings

When using Word as editor, it is advisable to use the Web Layout view. From the Menu bar, select the **VIEW** tab, then click the **Web Layout view**. The table borders beyond the right margin of the paper are visible and can be edited.

Tip: view grid lines

The cell gridlines can also be displayed. By default, this feature is not enabled. Use the border layout option in the **HOME** tab and click **View gridlines**. Borders with no visible line, are represented as a dotted line.

Creating Html Visit Report Template

The template is stored as an html document. The complete default html template is shown in appendix Default Template for Visit Report. The default template is also available in LN in the Visit Report Templates (tsmdm5100m000) session.

Note: Html Visit Report Templates are supported in LN 10.5 and later versions, including LN Cloud Edition. The html templates can be used for LN Mobile Service for Windows, Android, and iOS. The rtf templates can only be used for the Windows version.

Placeholders html

In html visit report templates, placeholders are defined by using text within markers within the content of html tags or are defined as attributes of html elements. There are five types of placeholders. Three of them are defined by using text within markers. Two of them are defined by attributes on html elements.

Notation	Placeholder Types
{{label name}}	Label
##placeholder name##	Data item from a data set
%%placeholder name%%	Image from a data set
data-dataset=”dataset name” (attribute)	Data set identifier
data-datasetrow=”dataset name” (attribute)	Data set row identifier

Layout

Placeholders can be placed anywhere as part of the content of html tags of the document. So, the following construction is completely valid.

Service order number ##ServiceOrder## has a start date of ##StartDate##

The ##ServiceOrder## and ##StartDate## placeholder is replaced with the corresponding values of the visit in the actual visit report.

To define a data set section two attributes are used ‘data-dataset’ and ‘data-datasetrow’.

The ‘data-dataset’ attribute designates the element which is present if there are any records in the data set. When the data set has no records, the element is not displayed at all. If any header and footer content should only be displayed if there are any records, these should be contained within this element. If any header and footer content should always be displayed even if there are no records it should be outside of this element.

The ‘data-datasetrow’ attribute designates the element that is repeated for every record of the data set. Each repeated section is filled with the data values of one record of the data set. An element with the ‘data-datasetrow’ attribute is often defined within an element with a matching ‘data-dataset’ attribute.

Example 1

```
<span>Service order number ##ServiceOrder## has a start date of ##StartDate##</span>
<div data-dataset="LaborCost">
  <div>{{Labor}}</div>
    <table>
      <tr >
        <td>{{Hours}}</td><td>{{Task}}</td>
      </tr>
      <tr  data-datasetrow="LaborCost">
        <td>##Duration##</td><td>##Task##</td>
      </tr>
    </table>
</div>
```

Red: the dataset element for LaborCost. This element and everything it contains is shown if there is at least one record in the LaborCost dataset.

Orange: the datasetrow element is repeated for each record in the LaborCost dataset.

Blue: elements which are part of the document dataset or parent dataset.

Assume service order ABC0001 started 1-8-2020 and has two labor costs DIG and FILL which lasted one and two hours respectively. The above template can result in the below visit report.

Service order number ABC0001 has a start date of 1-8-2020

Labor	
Hours	Task
1:00	Dig
2:00	Fill

To be able to represent parent/child relations the data set element of the child should be nested in the data set row element of the parent. These parent/child relations are present between activities and for example labor cost.

In the case of activities and labor cost, if labor cost must be presented per activity, the labor cost data set element must be nested in the activity data set row element. Data sets have a structure to recognize if used as a child set. Instead of presenting all the labor cost of a visit, only the labor cost for the current activity are presented in the nested labor cost section.

Example 2

```
<span>Service order number ##ServiceOrder## has a start date of ##StartDate##</span>
<div data-datasetrow="Activities">
  <span>{{Activity}} ##Description##</span>
  <span>(##ServiceOrder##-##ActivityLine##)</span>
  <div data-dataset="LaborCost">
    <div>{{Labor}}</div>
      <table>
        <tr >
          <td>{{Hours}}</td><td>{{Task}}</td>
        </tr>
        <tr  data-datasetrow="LaborCost">
          <td>##Duration##</td><td>##Task##</td>
        </tr>
      </table>
  </div>
</div>
```

Green: the datasetrow element is repeated for each record in the Activities dataset.

Red: the dataset element for LaborCost. This element and everything is shown if there is at least one record in the LaborCost dataset.

Orange: the datasetrow element is repeated for each record in the LaborCost dataset.

Blue: elements which are part of the document dataset.

Assume service order ABC0055 started 7-8-2021 and has two activities Check Cable and Correct Sign. The first activity Check Cable has two labor cost DIG and FILL which lasted one and two hours respectively. The second activity Correct Sign has no labor cost. The above template results in the below visit report.

Service order number ABC0055 has a start date of 7-8-2021

Activity Check Cable

ABC0055-1

Labor	
Hours	Task
1:00	Dig
2:00	Fill

Activity Correct Sign

ABC0055-2

No Document dataset elements

The Document dataset is the base data set and it has only one record. Dataset element and datasetrow element do not have to and should not be designated for the Document dataset.

Optional dataset element

Designating a dataset element with the 'data-dataset' attribute contains the datasetrow elements is optional. If only a repeating element needs to be displayed for the dataset only an element with the 'data-datasetrow' attribute can be designated. This is shown in example 2. For the Activities dataset no 'data-dataset' attribute is used, only a 'data-datasetrow' attribute designates the element which should be repeated for each record in the Activities dataset.

Parent data values in child

If a dataset or datasetrow element contains data placeholders which do not correspond with any of the data set properties, replacement takes place using the parent data set. If no match is found in the parent data set, the placeholder is matched and possibly replaced with the document data set values. This is shown in example 2. For the Activities datasetrow the service order code is printed in combination with activity line, using the ##ServiceOrderCode## placeholder of the document dataset.

Totals

For each data set which represents costs, totals are calculated. In the default template, these totals are presented in the summary paragraph.

The placeholders Totalxxx and GrandTotal displays values of all the cost of the selected activities. The detail lines of these costs do not necessarily have to be presented in the report. The TotalDetailxxx and GrandDetailTotal placeholders contain values only from the detail cost lines.

Editing the template

To edit a html visit report template basic knowledge of html is required. A html file can be edited by opening it in a text editor but there are many more sophisticated tools available to create and edit html files.

Styling and Images

No external files are supported by the template. Styling and images should be embedded within the template file. Styling in the form of CSS can be defined inline by using the style attribute inside html elements or internally on a document level by using a style element in the head section. Images can be embedded in the html document itself in various ways.

An example of embedding an image can be found in the default html template in LN. This template can be imported and downloaded from session Visit Report Templates (tsmdm5100m000), or downloaded from session Additional Files (ttadv2570m000, additional file tssocLN_Mobile_Service_Visit_Report_Template.html).

Appendix C: Placeholders for Visit Report Template

This chapter lists the place holders for a visit report template.

Document

- DepartmentName
- DepartmentAddress

  10 row formatted address according to the backend address formatting rules.
- ServiceOrder
- CustomerOrder
- StartTime

  Actual start time of the first activity
- StartTimeDateOnly

  Actual start date of the first activity, without the time part.
- ServiceEngineer
- ServiceAddress

  10 row formatted address according to the backend address formatting rules.
- SoldToBusinessPartner
- SoldToBusinessPartnerName
- BillingAddress

  10 row formatted address according to the backend address formatting rules.
- InvoiceToBusinessPartner
- InvoiceToBusinessPartnerName
- Item

  Item code.
- ItemDescription

  Item description
- SerialNumber
- SerialNumberDescription
- ServiceType
- ServiceTypeDescription
- Project
- ProjectDescription

- OrderFixedPriceAmount: Amount including currency. If PricingMethod is not Fixed Price this field is hidden.
- OrderFixedPriceTaxAmount: Amount including currency. If PricingMethod is not Fixed Price this field is hidden.
- OrderFixedPriceAmountAndLabel: Amount including currency preceded by a text and colon. If PricingMethod is not Fixed Price this field is hidden.
- OrderFixedPriceTaxAmountAndLabel: Amount including currency preceded by a text and colon. If PricingMethod is not Fixed Price this field is hidden.
- Priority

  The priority of the visit
- SoldToContact
- SoldToContactName
- SoldToContactTelephone
- SoldToContactEmail
- PlannedStartTime
- PlannedFinishTime
- ShipToBusinessPartner
- ShipToBusinessPartnerName
- InstallationTime

  Installation date and time
- InstallationDate

  Installation date
- LocationInformation
- OrderText

Special placeholders

Totals which displays total values of all costs independent of if the details line are displayed or not.

- TotalMaterialCost
- TotalMaterialCostTax (not in default template)
- TotalLaborCost
- TotalLaborCostTax (not in default template)
- TotalOtherCost
- TotalOtherCostTax (not in default template)
- TotalInvoice
- TotalTax
- GrandTotal

Note:

TotalInvoice, TotalTax and GrandTotal is calculated by adding the TotalInvoice, TotalTax and GrandTotal is calculated by adding the individual totals and including the fixed price value (if any). In general, if a fixed price value is set, all detail amounts are zero.

Totals of costs which are presented in the detail lines.

- TotalDetailMaterialCost
- TotalDetailMaterialCostTax (not in default template)
- TotalDetailLaborCost
- TotalDetailLaborCostTax (not in default template)
- TotalDetailOtherCost
- TotalDetailOtherCostTax (not in default template)
- TotalDetailInvoice
- TotalDetailTax
- GrandDetailTotal

Text placeholders

- EngineerComments
- CustomerComments
- CustomerName

Image placeholders (represented by %%placeholder%%)

- EngineerSignature
- CustomerSignature

Activities

- ActivityLine
- ActivityText
- ReportedProblem
- ExpectedProblem
- ExpectedSolution
- ActualProblem
- ActualSolution
- ActualProblemComment
- ActualSolutionComment
- Description
- Item - Item code.
- ItemDescription - Item description TotalDetailInvoice, TotalDetailTax and GrandDetailTotal is calculated by adding the individual totals and including the fixed price value (if any). In general, if a fixed price value is set, all detail amounts are zero.
- SerialNumber
- SerialNumberDescription
- ServiceType
- ServiceTypeDescription
- FixedPriceAmount - Amount including currency. If PricingMethod is not set to Fixed Activity Price this field is hidden.
- FixedPriceTaxAmount - Amount including currency. If PricingMethod is not set to Fixed Activity Price this field is hidden.

- FixedPriceAmountAndLabel - Amount including currency preceded by a text and colon. If PricingMethod is not set to Fixed Activity Price this field is hidden.
- FixedPriceTaxAmountAndLabel - Amount including currency preceded by a text and colon. If PricingMethod is not set to Fixed Activity Price this field is hidden.
- Priority

  The priority of the activity
- ShipToContact
- ShipToContactName
- ShipToContactTelephone
- ShipToContactEmail
- Contract
- ContractDescription
- Warranty
- WarrantyDescription
- CoverageType
- CoverageTypeDescription
- ActualStartTime
- ActualFinishTime
- PlannedStartTime
- PlannedFinishTime
- InstallationTime

  Installation date and time
- InstallationDate

  Installation date
- Call – Call code

Material

- Quantity - The quantity of the material, including unit.
- Item - Item code
- Description - Item Description
- SerialNumber
- SerialNumberDescription
- AmountOrCoverage

  The invoice amount, as calculated by the backend including the currency. If the material has been changed after the last synchronization or has not been synchronized at all, the amount is not visible.

  If the amount is zero and a value is specified in the 'CoveredBy' field, the coverage type is displayed instead of the zero amount.
- Lotcode

Labor cost

- StartTime - The start time of the labor task.

- EndTime - The end time of the labor task. (This field is calculated based on the start time and duration of the labor task.)
- StartDate - The start date of the labor task (without time).
- EndDate - The end date of the labor task (without time).
- TimeStartTime - Start time (without date)
- TimeEndTime - End time (without date)
- DayStartDate - Day of start date (Monday, Tuesday, etc.)
- Duration - The duration of the labor task.
- LaborType - Translated labor type.
- Task - Task description
- OvertimeType - The overtime code.
- AmountOrCoverage

  The invoice amount, as calculated by the backend including the currency. If the labor cost has been changed after the last synchronization or has not been synchronized at all, the amount is not visible.

  If the amount is zero and a value is specified in the 'CoveredBy' field, the coverage type is displayed instead of the zero amount.

  Note: The mentioned date fields and time fields are only printed on the visit report when the related labor hours accounting lines in LN are not yet deleted. When the labor hours accounting lines have been deleted, only the **Duration** can be printed.

Other cost

- Quantity - The quantity, including unit.
- TravelStartTime - The travel start date and time.
- TravelEndTime - The travel end date and time.
- TravelStartDate - The travel start date (without time).
- TravelEndDate - The travel end date (without time).
- TravelTimeStartTime - The travel start time (without date).
- TravelTimeEndTime - The travel finish time (without date).
- TravelDayStartDate - The day of the travel start (Monday, Tuesday, etc.)
- CostType - CostType can be Other or Travel.
- Description - Other cost description. CostType Travel does not have a description.
- AmountOrCoverage

  The invoice amount as calculated by the back-end including the currency. If the other cost has been changed after the last synchronization or has not been synchronized at all, the amount is not visible.

  If the amount is zero and a value is specified in the **CoveredBy** field, the coverage type is displayed instead of the zero amount.

- Item - Item code

Note: The mentioned date fields and time fields are only printed on the visit report when the related travel time hours accounting lines in LN are not yet deleted. When the travel time hours accounting lines have been deleted, only the **Quantity** can be printed.

Inspections (not included in default template)

- Item - Item code
- ItemDescription
- SerialNumber
- SerialNumberDescription
- MeasurementType - Measurement type code
- MeasurementTypeDescription
- Position - Position code
- PositionDescription
- MeasuredValue
- MeasurementTime - Date and time of the measurement
- InspectionText - Additional text entered by the service engineer
- Inspections
- Inspection
- Item
- SerialNumber
- Position or MeasurementPosition
- MeasuredOn
- MeasuredValue
- MeasuredValueOrDescription
- MeasurementType
- MeasurementUnit
- InspectionText
- FixedPrice
- OrderFixedPrice

External Notes (available from solution 2131466)

- ExternalNote - The text of the external note.
- CreatedByName - The name of the engineer that created the note.
- CreationDateTime - The date and time the note was created.

Total hours per labor type (not included in the default template)

- LaborTypeCode - The code of the labor type
- LaborType - The description of the labor type
- Duration - The duration of the labor type expressed in hours

Labels (used by label placeholder <<labelplaceholder>>)

- Order
- OrderReference
- StartTime
- FinishTime
- ServiceEngineer

- ServiceAddress
- BillingAddress
- Activity
- Quantity
- Amount
- Duration
- Materials
- ItemCode
- ItemDescription
- OtherCosts
- CostType
- Description
- Labor
- Hours
- LaborType
- LaborTypes
- Task
- Diagnosis
- ReportedProblem
- ExpectedProblem
- ExpectedSolution
- ActualProblem
- ActualSolution
- Note
- Notes
- CreatedBy
- Summary
- Tax
- Total
- EngineerComments
- CustomerComments
- CustomerName

Appendix D: Default Template for Visit Report

This appendix shows the default rich text document template and html template for visit reports. These templates are also the templates used if no appropriate template is defined. The templates can be imported and downloaded from session Visit Report Templates (tsmdm5100m000) or downloaded from session Additional Files (ttadv2570m000). The file names are:

- tssocLN_Mobile_Service_Visit_Report_Template.rtf
- tssocLN_Mobile_Service_Visit_Report_Template.html

Rich Text Document Visit Report Template

##DepartmentName##	**<<Order>>**	**##ServiceOrder##**
##DepartmentAddress##	<<OrderReference>> <<StartTime>> <<ServiceEngineer>>	##ReferenceA## ##StartTime## ##Engineer##

	<<BillingAddress>> **<<ServiceAddress>>**
##SoldToBusinessPartnerName## ##ServiceAddress##	##InvoiceToBusinessPartnerName## ##BillingAddress##

<<Summary>>			
<<Materials>>	**<<Labor>>**	**<<OtherCosts>>**	**<<Total>>**
##TotalMaterialCost##	##TotalLaborCost##	##TotalOtherCost## <<Tax>> <<Total>>	##TotalInvoice## ##TotalTax## ##GrandTotal##

<<EngineerComments>>
##EngineerComments##
<<CustomerComments>>
##CustomerComments##

%%EngineerSignature%%	%%CustomerSignature%%
##ServiceEngineer##	**##CustomerName##**

<<ServiceEngineer>>		<<CustomerName>>	
[[Activities]]			
<<Activity>> (##ActivityPk##)			
[[MaterialCost]]			
<<Materials>>			
<<Quantity>>	**<<ItemCode>>**	**<<ItemDescription>>**	**<<Amount>>**
##Quantity##	##Item##	##Description##	##AmountOrCoverage##
[[OtherCost]]			
<<OtherCosts>>			
<<Quantity>>	**<<CostType>>**	**<<Description>>**	**<<Amount>>**
##Quantity##	##CostType##	##Description##	##AmountOrCoverage##
[[LaborCost]]			
<<Labor>>			
<<Hours>>	**<<LaborType>>**	**<<Task>>**	**<<Amount>>**
##Duration##	##LaborType##	##Task##	##AmountOrCoverage##
<<Diagnosis>>			
<<ReportedProblem>>			
##ReportedProblem##			
<<ExpectedProblem>>		**<<ExpectedSolution>>**	
##ExpectedProblem##		##ExpectedSolution##	
<<ActualProblem>>		**<<ActualSolution>>**	
##ActualProblem##		##ActualSolution##	
##ActualProblemComment##		##ActualSolutionComment##	

Html Visit Report Template

```
<!DOCTYPE html>
<html>
<head>
    <title></title>
    <style type="text/css">
        body {
            margin: 1em;
```

```
        }
        .normal-style {
            font-size: 1em;
        }
        .sub-heading-style {
            font-size: 1.14em;
        }
        .title-style {
            font-size: 1.43em;
        }
        .accent-color {
            color: #368AC0;
        }
        .table-caption {
            font-size: 1.14em;
            font-weight: bold;
        }
        .table-header {
            font-size: 1em;
            font-weight: bold;
        }
        .table-row {
            font-size: 1em;
        }
        .multiline {
            white-space: pre;
        }
        .right-align {
            text-align: right;
        }
    </style>
</head>
<body>
    <br />
    <table style="width:100%;">
        <tr>
            <td style="width:50%;">
                <table >
                    <tr>
                       <td><div class="normal-style multiline">##DepartmentAddress##</div></td>

                    </tr>
                </table>
            </td>
            <td valign="top" style="width:50%;">
                <table>
                    <tr>
                        <td class="sub-heading-style accent-color" style="width:50%;">{{Or
der}}</td>
                        <td class="sub-heading-style accent-color" style="width:50%;">##Service
Order##</td>
                    </tr>
                    <tr>
                        <td class="normal-style">{{OrderReference}}</td>
                        <td class="normal-style">##ReferenceA##</td>
                    </tr>
                    <tr>
                        <td class="normal-style">{{StartTime}}</td>
                        <td class="normal-style">##StartTime##</td>
                    </tr>
                    <tr>
                        <td class="normal-style">{{ServiceEngineer}}</td>
                        <td class="normal-style">##ServiceEngineer##</td>
                    </tr>
                </table>
            </td>

        </tr>
    </table>

    <hr />
    <br />
    <div class="sub-heading-style accent-color">{{ServiceAddress}}</div>
    <div class="normal-style multiline">##ServiceAddress##</div>
```

```
    <br />
    <hr />

    <!--Activities-->
    <div data-datasetrow="Activities">
        <span class="sub-heading-style accent-color">{{Activity}} ##Description##</span>
        <span class="normal-style accent-color">(##ServiceOrder##-##ActivityLine##)</span>
        <div class="normal-style accent-color">##Item## - ##SerialNumber## ##ItemDescrip
tion##</div>
        <br />

        <!--MaterialCost-->
        <div data-dataset="MaterialCost">
            <div class="table-caption">{{Materials}}</div>
            <table style="width:100%;">
                <tr class="table-header">
                    <td style="width:25%">{{Quantity}}</td>
                    <td style="width:25%">{{ItemCode}}</td>
                    <td style="width:50%">{{ItemDescription}}</td>
                </tr>
                <!--MaterialCost-->
                <tr data-datasetrow="MaterialCost" class="table-row">
                    <td>##Quantity##</td>
                    <td>##Item##</td>
                    <td>##Description##</td>
                </tr>
            </table>
            <br />
        </div>

        <!--OtherCost-->
        <div data-dataset="OtherCost">
            <div class="table-caption">{{OtherCost}}</div>
            <table style="width:100%;">
                <tr class="table-header">
                    <td style="width:25%">{{Quantity}}</td>
                    <td style="width:75%">{{Description}}</td>
                </tr>
                <!--OtherCost-->
                <tr data-datasetrow="OtherCost" class="table-row">
                    <td>##Quantity##</td>
                    <td>##Description##</td>
                </tr>
            </table>
            <br />
        </div>

        <!--LaborCost-->
        <div data-dataset="LaborCost">
            <div class="table-caption">{{Labor}}</div>
            <table style="width:100%;">
                <tr class="table-header">
                    <td style="width:25%">{{Hours}}</td>
                    <td style="width:75%">{{Task}}</td>
                </tr>
                <!--LaborCost-->
                <tr  data-datasetrow="LaborCost" class="table-row">
                    <td>##Duration##</td>
                    <td>##Task##</td>
                </tr>
            </table>
            <br />
        </div>

        <!--Inspections-->
        <div data-dataset="Inspections">
            <div class="table-caption">{{Inspections}}</div>
            <table style="width:100%;">
                <tr class="table-header">
                    <td style="width:25%">{{MeasurementType}}</td>
                    <td style="width:25%">{{MeasurementPosition}}</td>
                    <td style="width:25%">{{MeasuredValue}}</td>
                    <td style="width:25%">{{MeasuredOn}}</td>
                </tr>
```

```
            <!--Inspections-->
            <tr data-datasetrow="Inspections" class="table-row">
                <td>##MeasurementTypeDescription##</td>
                <td>##PositionDescription##</td>
                <td>##MeasuredValueOrDescription##  ##MeasurementUnit##</td>
                <td>##MeasurementTime##</td>
            </tr>
        </table>
        <br />
    </div>

    <div class="table-caption">{{Diagnosis}}</div>
    <table style="width:100%;">
        <tr class="table-header">
            <td style="width:50%">{{ReportedProblem}}</td>
            <td style="width:50%"></td>
        </tr>
        <tr class="table-row">
            <td>##ReportedProblem##</td>
            <td></td>
        </tr>
        <tr class="table-header">
            <td>{{ExpectedProblem}}</td>
            <td>{{ExpectedSolution}}</td>
        </tr>
        <tr class="table-row">
            <td>##ExpectedProblem##</td>
            <td>##ExpectedSolution##</td>
        </tr>
        <tr class="table-header">
            <td>{{ActualProblem}}</td>
            <td>{{ActualSolution}}</td>
        </tr>
        <tr class="table-row">
            <td>##ActualProblem##</td>
            <td>##ActualSolution##</td>
        </tr>
        <tr class="table-row">
            <td>##ActualProblemComment##</td>
            <td>##ActualSolutionComment##</td>
        </tr>
    </table>
    <br />

    <!--ExternalNotes-->
    <div data-dataset="ExternalNotes">
        <div class="table-caption">{{Notes}}</div>
        <table style="width:100%;">
            <!--ExternalNotes-->
            <tbody data-datasetrow="ExternalNotes">
                <tr class="table-header">
                    <td>{{Note}}</td>
                </tr>
                <tr class="table-row">
                    <td>##NoteText##</td>
                </tr>
                <tr class="table-row">
                    <td><br /></td>
                </tr>
            </tbody>
        </table>
        <br />
    </div>

    <br />
</div>

<br />
<hr />
<br />
<table style="width:100%;">
    <tr class="table-header">
        <td style="width:50%">{{EngineerComments}}</td>
        <td style="width:50%">{{CustomerComments}}</td>
```

```
        </tr>
        <tr class="table-row">
            <td>##EngineerComments##</td>
            <td>##CustomerComments##</td>
        </tr>
        <tr class="table-row">
            <td>%%EngineerSignature%%</td>
            <td>%%CustomerSignature%%</td>
        </tr>
    </table>

    <table style="width:100%;">
        <tr class="table-header">
            <td style="width:50%">##ServiceEngineer##</td>
            <td style="width:50%">##CustomerName##</td>
        </tr>
        <tr class="table-row">
            <td>{{ServiceEngineer}}</td>
            <td>{{CustomerName}}</td>
        </tr>
    </table>
    <br />
    <hr />
</body>
</html>
```

Appendix E: Defining Mobiles Service App Settings in LN

There are various settings which can be set in the Mobile Service application itself. This allows service employees to change the behavior and look of the app and enable or disable certain functionality. In practice, the desired settings are often the same for all service employees of one company. In addition, a company might also want to prevent service employees from changing certain settings.

Within LN, these Mobile Service app settings can be defined in one or more setting files. A setting file can be linked to a service user template. These settings will be used as a default when a service employee starts using Mobile Service. Some settings might also be made read-only, preventing service employees from changing the setting in the Mobile Service application. The use of app setting files is optional and available with solution 2077385.

Note: Connection settings cannot be set and defaulted with the Mobile Service App Settings File. Connection settings can be easily set by importing a connection settings file or scanning a QR-code (Android/iOS). Refer to the following documents for details:

- Infor LN Mobile Service - Getting Started Guide for Windows, or
- Infor LN Mobile Service - Getting Started Guide for Android and iOS

Defining setting files for Mobile Service requires two steps:

1. Create a record within Mobile Service App Settings (tsmdm5110m000) containing an xml file. This xml file contains the desired settings.
2. Link the app settings record to a service user template in session Service User Templates (tsmdm1160m000)

Creating a Mobile Service App Settings File

To create a Mobile Service App Settings file, open session Mobile Service App Settings (tsmdm5110m000) and create a record by entering an app setting code and description. A settings file needs to be added to the record. The session allows a default settings file that is already present in LN to be imported. After importing the default settings file, it can be downloaded from the session, edited and uploaded again. It is also possible to create a new settings file instead of using the default setting file.

The settings file is an xml file and it must have the following structure:

```
<AppSettings>
        <AppSetting>
                <Name></Name>
                <DataType></DataType>
                <Value></Value>
```

```
                <IsReadonly></IsReadonly>
        </AppSetting>
        <AppSetting>
                <Name></Name>
                <DataType></DataType>
                <Value></Value>
                <IsReadonly></IsReadonly>
        </AppSetting>
        <AppSetting>
               … etc
        </AppSetting>
</AppSettings>
```

Each AppSetting element describes a single setting in the app. It has the following sub elements:

Element	Description
Name	The name of the setting
DataType	The data type of the setting (string / integer / double / boolean / enum)
Value	The value of the setting
IsReadonly	Whether the setting can be changed by the service employee (true / false)

The name element must match a name as defined in the last paragraph of this Appendix. Each setting has a specific data type. This can be a string denoting a text, an integer representing a whole value (1, 2, -7, 32), a double representing a fractional value (1.5, 2.3, -0.53, 1006.349), a boolean representing a true or false value, and lastly there are enum data types where the value can only be a value from a restricted set of values (for example, colors: red / blue / green, mode: automatic / manual / disabled). The data type of each setting as well as the allowed set of values for settings with an enum data type can be found in the last paragraph of this chapter.

Settings which are not set to read-only will only affect new installations of Mobile Service. These settings function only as an initial default. Settings which are set to read-only will not only affect new installations of Mobile Service but will also be enforced onto existing installations. Although the default setting file which can be imported in LN has a definition for each setting, not all settings have to be defined in the file. It is sufficient to add only those settings for which an initial default is desired, or which need to be made completely read-only.

Linking an App Settings Record to a Service User Template

After an app settings record has been created in Mobile Service App Settings (tsmdm5110m000) session containing an xml settings file, the app settings can be linked to on one or more service user templates. This can be done with session Service User Templates (tsmdm1160m000) by entering the desired app settings in the app settings field. After linking app settings to a Service User Template, the next time a service employee synchronizes to LN these settings will be downloaded into the app.

Note: The Service User Template must be linked to the user profile (tsmdm1150m000) of the service employee.

App Settings XML file – Element names, data types and possible values

The following table defines all the available app setting names, the data types of the app settings and the possible values:

Name (Label of setting in the app)	Data Type	Values
AutomaticallySendReceiveData (Windows: Send and receive data automatically) (Android/iOS: Automatically)	enum	manual.sync auto.sync
AutomaticReceiveIntervalSeconds (Windows: Automatic receive interval in seconds) (Android/iOS: Receive interval)	integer	Any positive integer
AutomaticSendIntervalSeconds * (Automatic send interval in seconds)	integer	Any positive integer
AutomaticSendReceiveWhenActivityPausedOrCompleted (Windows: Send and receive data when pausing or completing an activity) (Android/iOS: When activity paused or completed)	boolean	True False
AutomaticSendReceiveWhenOrderingBenchStock (Windows: Send and receive data when ordering bench stock) (Android/iOS: When ordering bench stock)	boolean	True False
NumberOfDaysToKeepSynchronizationLog (Windows: Number of days to keep synchronization log) (Android/iOS: Period to keep synchronization log)	integer	Any positive integer
SendGPSInformation (Send GPS information)	boolean	True False
EnableGpsLoggingInterval (Enable GPS logging interval)	boolean	True False
GpsLoggingInterval (GPS logging interval)	integer	Any positive integer
RefreshLabelsAtStartUp (Windows: Refresh application labels at startup) (Android/iOS: Refresh at startup)	boolean	True False

Name (Label of setting in the app)	Data Type	Values
CodeAndDescriptionDisplayFormat (Windows: Display format for code and description fields) (Android/iOS: Code and description fields)	enum	description.de-fault.to.code description.and.code code code.and.description
CodeAndDescriptionSeparator (Separator)	string	Separator character(s), like for example -, --, [, or (
UseItemSpecificCodeAndDescriptionDisplayFormat (Windows: Display format for item code and description (Android/iOS: Item code and description)	boolean	True False
ItemSpecificCodeAndDescriptionDisplayFormat (Windows: Display format for item code and description) (Android/iOS: Item code and description)	enum	description.de-fault.to.code description.and.code code code.and.description
ItemSpecificCodeAndDescriptionSeparator (Seperator)	string	Separator character(s), like for example -, --, [, or (
QuantityChangeStepSize (Step size for quantity changes)	integer	Any positive integer
DurationChangeStepSize (Step size for duration changes in minutes)	integer	Any positive integer
ScanBarcodeItemCode (Enable item code scanning)	boolean	True False
ScanBarcodeSerialNumber (Enable serial number scanning)	boolean	True False
ScanBarcodeSearch (Enable search term scanning)	boolean	True False
UseUserLanguage (Use user language)	boolean	True False

Name (Label of setting in the app)	Data Type	Values
LanguageUsedByApplication (Language used by application)	string	This setting is only applicable when UseUserLanguage has the value false, and then it should contain one of the language codes as defined in Software Languages (ttaad1510m000).
MapProvider * (Map Provider)	enum	open.street.map windows.maps
AllowToAcceptDeclineVisits (Allow to accept/decline a visit)	boolean	True False
SplitVisitOnOverlap (Split overlapping visits)	boolean	True False
SplitVisitOnTime (Split visits with intervals between activities)	boolean	True False
NumberOfMinutesToSplitVisits** (Minimum time in minutes between activities to split visit**/Split visit if time in minutes between activities exceeds***)	integer	Any positive integer
VisitsToDisplay (Visits to display)	enum	all.visits for.specific.period
ShowVisitsBeforeDays (Display from the past)	integer	Any positive integer
ShowVisitsAfterDays (Display of the future)	integer	Any positive integer
InspectionCompletionCheck (Check for uncompleted inspections during activity completion)	enum	never warn block
ChangeStatusActivitiesByOneAction (Enable option to start, stop or complete multiple activities at once)	boolean	True False
ConfirmCompletingActivities (Ask for confirmation when completing activities)	boolean	True False

Name (Label of setting in the app)	Data Type	Values
DefaultAssignmentActualTimes (Start and finish times of activities due to start, stop and complete actions, are based on)	enum	current planned
StartStopTravel (Travel registration with Start/Stop options)	boolean	True False
ConfirmTravelStopData (Show travel data when finishing travel)	boolean	True False
ShowHoursBeforeWeeks (Windows: Number of previous weeks for which to display hours) (Android: Display from the past)	integer	Any positive integer
ShowHoursAfterWeeks (Windows: Number of following weeks for which to display hours) (Android/iOS: Display of the future)	integer	Any positive integer
AutomaticallyDownloadSerialHistory (Windows: Automatically download serial history for active visits) (Android/iOS: Automatically download for active visits)	boolean	True False
SerialHistoryAutomaticDownloadPeriodValue (Windows: Period to automatically download serial history data) (Android/iOS: Period for automatic download)	integer	Any positive integer
SerialHistoryAutomaticDownloadPeriodUnit (Windows: Period to automatically download serial history data) (Android/iOS: Period for automatic download)	enum	Year Month Day
SerialHistoryManualDownloadPeriodValue (Windows: Period to manually download serial history data) (Android/iOS: Period for manual download)	integer	Any positive integer
SerialHistoryManualDownloadPeriodUnit (Windows: Period to manually download serial history data) (Android/iOS: Period for manual download)	enum	Year Month Day

Name (Label of setting in the app)	Data Type	Values
SerialHistoryKeepHistoryPeriodValue (Windows: Period to keep serial history data) (Android/iOS: Period to keep history)	integer	Any positive integer
SerialHistoryKeepHistoryPeriodUnit (Windows: Period to keep serial history data) (Android/iOS: Period to keep history)	enum	Year Month Day
ShowCompletedActivityListBeforeReport (Show completed activities before generating visit report)	boolean	True False
AllowAssignmentsOtherEngineersInVisitReport (Allow activities of other service engineers to be included in the visit report)	boolean	True False
VisitReportBasedOn (Windows: no label) (Android: Based on completed activities of …)	enum	completed.activities.order completed.activities.visit completed.activities.all.engineers
RtfTemplatePdfConformanceLevel (Pdf conformance level for rtf templates)	Enum	rich.text none pdf.a1.b pdf.a2.b pdf.a2.u pdf.a3.b pdf.a3.u
AutomaticallyDownloadDocuments (Automatically download documents)	boolean	True False
AutomaticDocumentsDownloadRange (Download documents for)	enum	for.all.orders for.orders.starting.within.days.from.now
AutomaticDocumentsDownloadDaysFromNow (Days)	integer	Any positive integer

* Only available for the Windows version. Has no influence on the Android/iOS version.

** Until solution 2131446.

*** From solution 2131446

Note: When the settings in Mobile Service do not contain the expected values or a certain setting can still be changed by the user while this was not expected, then the App Settings XML file may contain some incorrect names, types or values. Mobile Service logs incorrect names, data types and values in the log file. The log file can be uploaded to LN from the Settings – Support tab. To find errors in the App Settings XML file, search the log file for the tag AppSettingImport.

The following table lists technical settings that must be handled with care. Incorrectly setting the value of these settings in the App Settings XML file may lead to performance loss of the app or failure of data synchronization for all users of Mobile Service.

Name (Label of setting in the app)	Data Type	Values
BshellCommand (Bshell Command(s))	String	
LogLevel (Log Level)	enum	error info debug

Note: Setting BshellCommand should mainly be used to disable the **Bshell Command** field in the app by setting the IsReadonly element in the xml file to true. It is strongly advised not to set any Bshell command value in this xml file.

Appendix F: Synchronization Performance

This appendix provides some advice on how to reduce the amount of data synchronization and some advice on how to improve the performance of the app.

The performance of the data synchronization between LN and Mobile Service is influenced by a lot of factors, like for example the properties of the network and the LN UI Server. Another factor is the amount of data to be synchronized. The amount of data can be reduced by disabling functionality that the Mobile Service user is not using, or by eliminating data the user is not needing.

Some settings can have a negative impact on the performance of the app itself.

Following are several advices to improve the (synchronization) performance:

In LN:

- In the Service User Template (tsdmd1160m000/tsmdm1660m000) it is possible to define which functionality the service engineer is using in Mobile Service. Unselect one or more of the following options if you are not using the functionality in Mobile Service:
  - Item Inventory

    This option is available from LN CE 2019.09 onwards. For older releases, a different solution is available. See KB 2047213 on the Infor Support Portal.
  - Bench Stock

    Available in LN 10.5, 10.6, 10.7 and higher versions, and from LN CE 2021.01 onwards.
  - Ordered Materials

    Available in LN 10.5, 10.6, 10.7 and higher versions, and from LN CE 2020.07 onwards.
  - Installations

    Available in LN 10.5, 10.6, 10.7 and higher versions, and from LN CE 2021.01 onwards.
  - Physical Breakdown

    Available in LN 10.5, 10.6, 10.7 and higher versions, and from LN CE 2020.07 onwards.
- Mobile Service uses authorized warehouses for Bench Stock, Ordered Materials by Service Car and for Materials. In the **Service User Template (tsdmd1160m000/tsmdm1660m000)** it is possible to define authorized warehouses. By unselecting the **Use All Warehouses** option the **Warehouse Authorizations** tab is enabled. This makes it possible to define authorized warehouses. Only define and authorize (car) warehouses that you use for Bench Stock, Ordered Materials by Service Car and/or for materials. At least define the service car warehouse(s) that you are using. This reduces the amount of data for Bench Stock and Ordered Materials.

In Mobile Service:

- If the **Send and receive data automatically** setting is enabled, then set the 'automatic receive interval' to 0 or to a high value (for example to 240 minutes).

  During the 'automatic receive interval', changed data in LN is synchronized to the app. This synchronization is done besides the regular synchronization from the app to LN which does not only send changed data from the app to LN, but also receives changed LN data. By setting the 'automatic receive interval' to 0 or to a high value, the number of synchronizations decreases.

  Note: The regular synchronization is defined by the **Automatic send interval** (Windows) or is done at suitable times (Android/iOS).

- Disable the **Refresh application labels at startup** option.

  This option is located in **Menu > Settings > Send and Receive**.

  There is no need to refresh the application labels every time the app is started: a new version of the app automatically refreshes the labels if needed. One exception to this is the installation of a new language pack. The application labels need to be refreshed after the installation of a new language pack. This refresh can be done by clicking the Refresh Application Labels Now button, or by temporarily activating the 'Refresh application labels at startup'. The latter can also be done by the administrator via the App Settings File. Disable the option again after the labels have been refreshed.

- Disable **Automatically download documents** setting or set the **Download documents for** option to `Orders for today and the following period` and enter a low number of days.
  Note: Documents can always be downloaded manually when they are needed.
- Disable the **Automatically download serial history for active visits** option.
  Note: Serial history information can always be download manually when the information is needed.
- Make sure Support setting **Log Level** is set to `Errors`. The other options make the app significantly slower and should only be temporarily set when an Infor support analyst requests it.