FieldTicket

80005

User's Guide
And
Installation/Setup

Document last updated: April 9, 2025

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What's New for version 80005

- iOS and Android apps updated, and now include a built-in version of BluePrint. No more external printing apps required!
- Android app completely rewritten so that it follows the Webapp style introduced with iOS.
- On-hold pictures can now be viewed to allow visual confirmation before upload.
- A check is done before each ticket is created to make sure that the Tempest Offence Code configuration matches the device's.
- Alert checking was added prior to Issuing or Warning for LNA tickets written on a property. The check will look for any prior LNA tickets on the property as well as property comments.
- An additional button, "Alerts?", was added to both the Vehicle and LNA screens which does all of the same checking as Issue or Warn would, but stop before Issuing or Warning.
- Added the name to the main list display for LNA tickets, making it easier to identify.
- Completely revamped the information and look in the display of Priors – giving the Officer much more information to base decisions on.
- Lots of other little adds and glitch fixes

UPDATE03 (April 2025) adds:

- Optional GPS locations recorded at time of issuance.
- Vehicle tickets can now be created with a VIN or plate/province. Note that on-board printer LBL files will print the VIN in the "Plate/Prov:" section unless NSTP is implemented (see below).
- Optional ability to directly specify the Offence, Service and Respond-By Dates.
- NSTP: On-screen ticket Review and ticket attachment completely overhauled to print, display, and attach using exactly the same ticket layout.
- Vehicle and LNA ticket entry Offence field pick-lists can use optional offence code filtering to limit lists to only those applicable to either Vehicle or LNA.

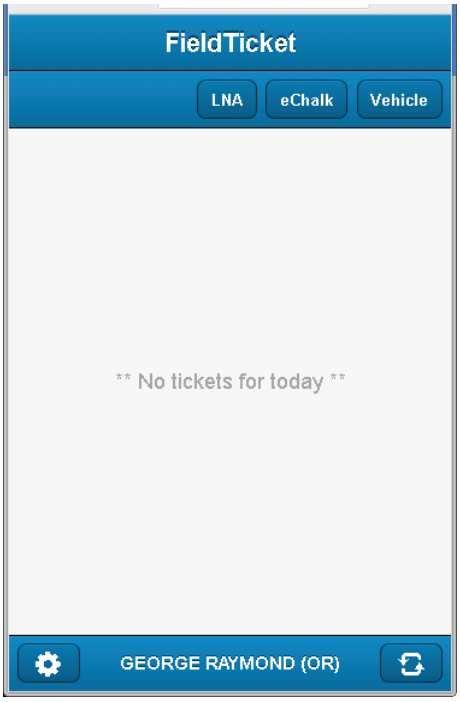
Upgrading from a previous version? See the Upgrade Notes at the end of this document for helpful advice.

1. Using FieldTicket

Note: This section assumes that you have successfully installed/upgraded and configured FieldTicket. If you have not yet done so, follow the instructions in section 2, Installation/Upgrading.

Before we begin, let's lay a foundation for what FieldTicket is designed to do, and what it is not meant to do. FieldTicket is designed to allow you to electronically create and print parking tickets in the field, as well as attach photographic eveidence. FieldTicket saves you from having to use manual ticket books and having to manually transcribe ticket information from hard-copy to Tempest… and it does it wirelessly – from anywhere you have a data transmission-capable signal on your device. FieldTicket is NOT designed to be a complete replacement for Tempest Ticketing.

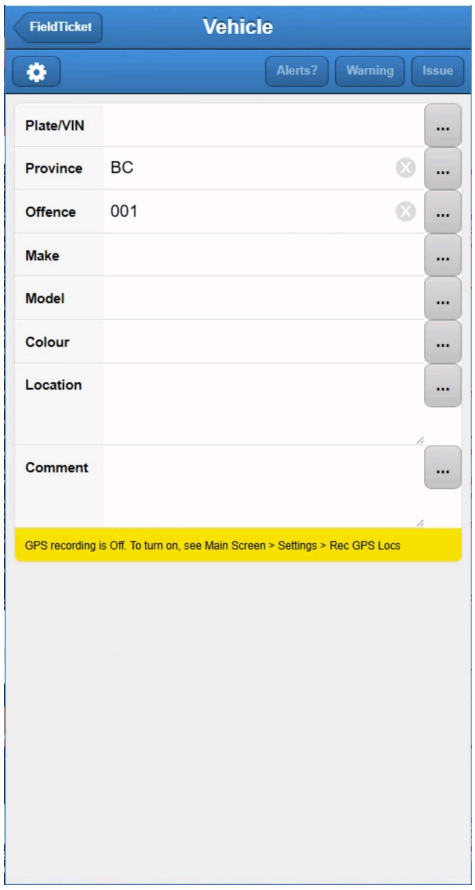
There are only a handful of screens in FieldTicket – each of them flowing naturally from the main home screen shown below. Creating a ticket, and printing it to your Bluetooth-capable printer uses a simple navigation method used by most modern handheld devices, so you should be on your way in no time.



When FieldTicket is started, this is the screen that is displayed first. At the start of each day, this screen should show you "** No tickets for today **", indicating that you have not written any tickets yet.

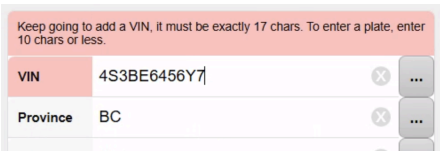
Creating a new Vehicle ticket

Begin by tapping the Vehicle button in the top-right. This will open the Vehicle entry screen:

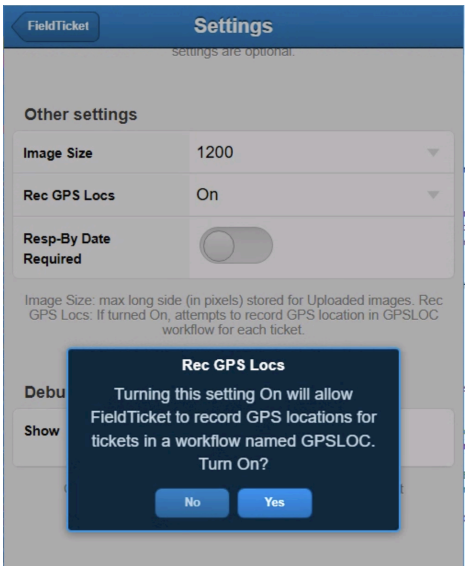


The default Province and Offence are pre-entered, so at a minimum you will need a Plate, and Meter or Location. (If you have set the preference to require Make/Model/Colour you will be required to enter that as well.) Plates should be entered without spaces.

The Plate/VIN field accepts a VIN (the device checks to make sure the VIN is valid). If a VIN is entered, the Province field must be empty. Once you type in 10 or more characters, the field name changes to VIN, and for a VIN, you must enter exactly 17 characters:



At the bottom of the screen, the “GPS recording is Off.” message is displayed. To turn GPS recording on, go back to the Main Screen > Settings > Rec GPS Locs, and turning the switch to On:



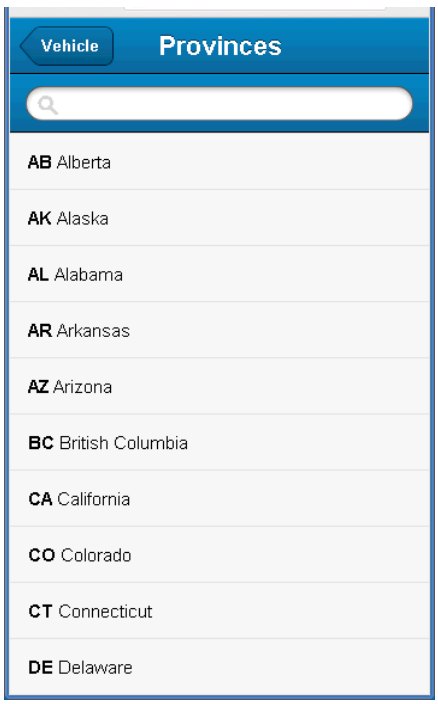
Tapping Yes, will enable GPS location recording as indicated by the green panel:

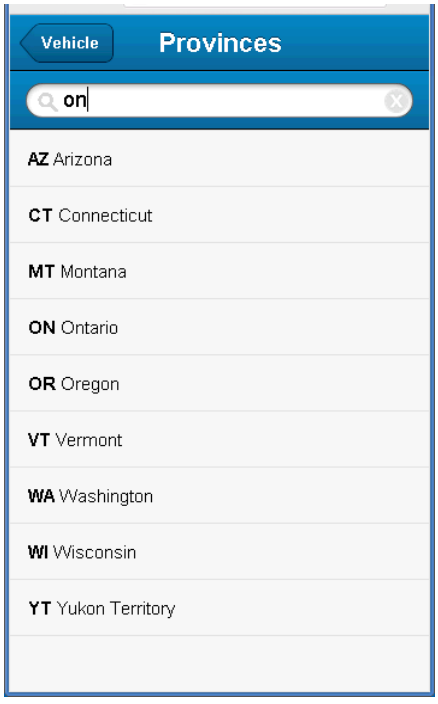
If you temporarily want to turn off GPS recording for a ticket, double-tap the GPSLOC green panel. You can double-tap again to turn it back on. If GPS recording is on, the GPS coordinate will be stored in a workflow on the ticket named GPSLOC. These coordinates can be used in GIS to map ticket incidents, for example. You can also pop the coordinates right into Google Maps to get a location pin.

Getting back to the entry fields, each entry field has an ellipsis (…) button beside it, to allow you to quickly enter values from a pick list. The data in these lists is downloaded from Tempest when you Authenticate. (Note: the Plate field has an ellipsis button to check for payments from any connected payment apps – such as HotSpot orPayByPhone. If your system does not have any connected payment apps, this button will not do anything.)

Depending on server settings (see section 2. – Installation), and Preferences chosen… all fields on the Vehicle entry screen could have associated pick lists.

After entering a plate, for example, if you wish to change the province from the default, you would tap the ellipsis button beside the Province entry field which brings up the Provinces list:



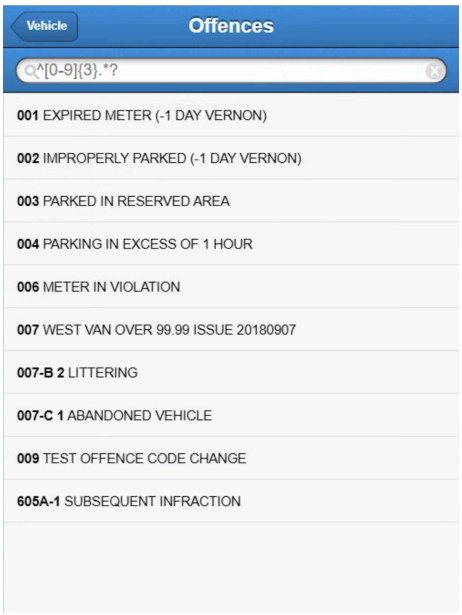


The filter field at the top allows you to narrow the choices down using what you enter as a filter, as shown on the right. Tap a list item to enter it into the corresponding Vehicle entry field.

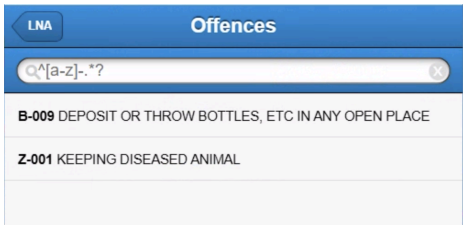
Offence Code filtering

If you are a FieldTicket Vehicle and LNA user, you may be interested in this next feature.

Entering a “regular expression” (regex) into the search field allows you to limit (filter) lists with extreme precision so that you only see the offences related to Vehicle parking, for example:



Above, the regex is filtering to show only offences that start with 3 numbers – which corresponds to (in this case) the offence codes for Vehicle tickets. Here is a regex to filter for LNA offences:



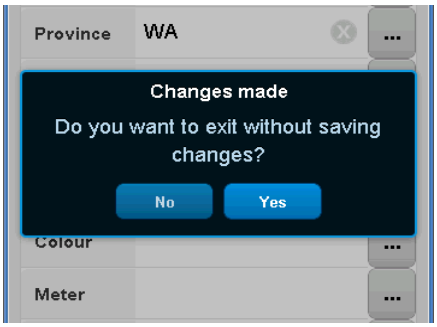
This filter is asking to show only offences that start with any alpha letter, followed by a dash, thereby showing us only our LNA offences when we are on the LNA entry screen. Powerful and time-saving.

Most offence code labelling schemes can be filtered down to only VEH or only LNA offences with a regex. And, the great news is that you can set up defaults, so you don't have to enter the filter every time! The setup section describes how to do this – look for “Notes for <ocfilters>” in the “Other control settings” section below.

Navigating back

On Android, the Back button can be used to navigate back to the previous screen, or the back button in the upper-left corner of all screens other than the main screen can be used to navigate back as well.

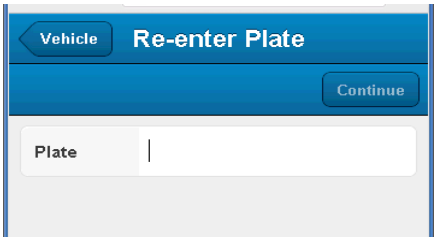
If you have made changes to data on a screen, FieldTicket will confirm whether you want navigate away from the screen before doing so:



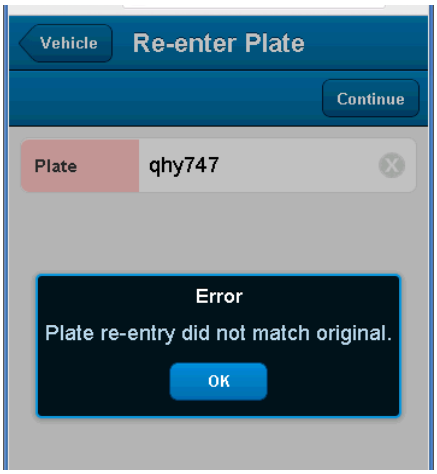
Issuing

Once you have entered all ticket fields you require to continue, tap the Issue button. (Note that the Issue button only lights up when you have entered the required minimum fields.)

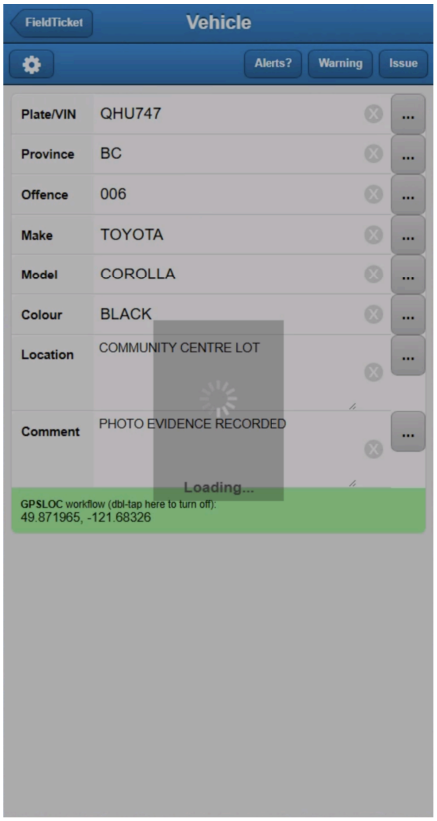
If you are requiring Plate re-entry (see the "Optionally, override control settings in Web Customer" of the "Installation/Upgrading" section of this guide), FieldTicket will display the "Re-enter Plate" screen:

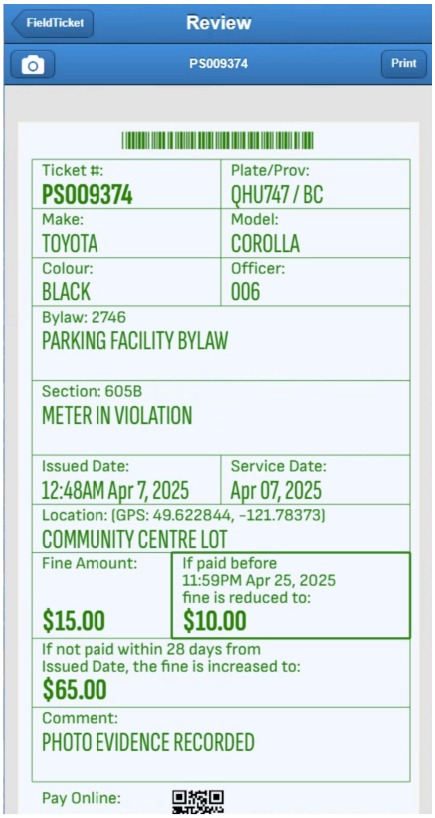


If you don't enter the plate the same as on the original screen, you will get the message:



If you do not require plate re-entry (or if you do and the plate was re-entered correctly) FieldTicket will transmit the information to Tempest (indicated by the spinner), create and display the new ticket on the Review screen:





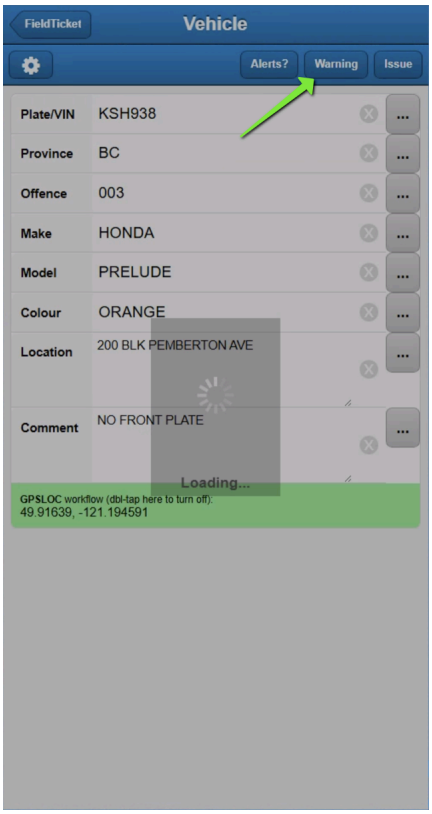
Whenever data is being passed back and forth with Tempest, FieldTicket displays the ”Loading” spinner.

To print the ticket, make sure your printer is turned on and tap the Print button (see the “Printing the ticket” section below for more details on printing).

Warning Tickets

To create a Warning ticket, you tap the Warning button at the top of the Vehicle entry screen – rather than the Issue button.

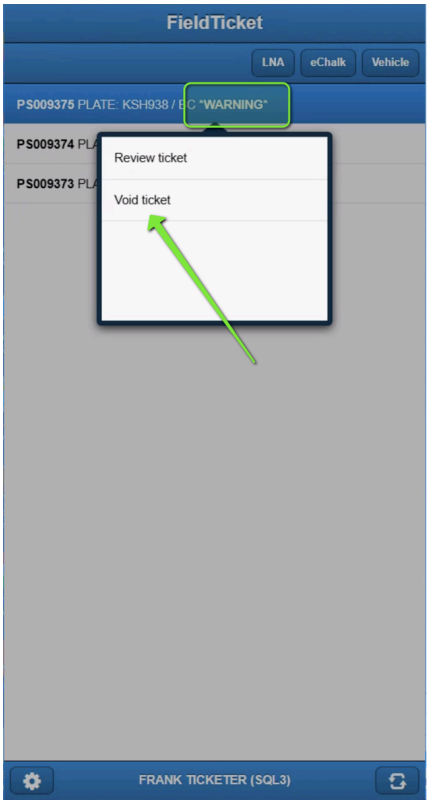
When creating a Warning ticket, a workflow of WARNING is added to the ticket in Tempest. The WARNING workflow on a ticket is the only way a warning ticket is identified in Tempest/FieldTicket.

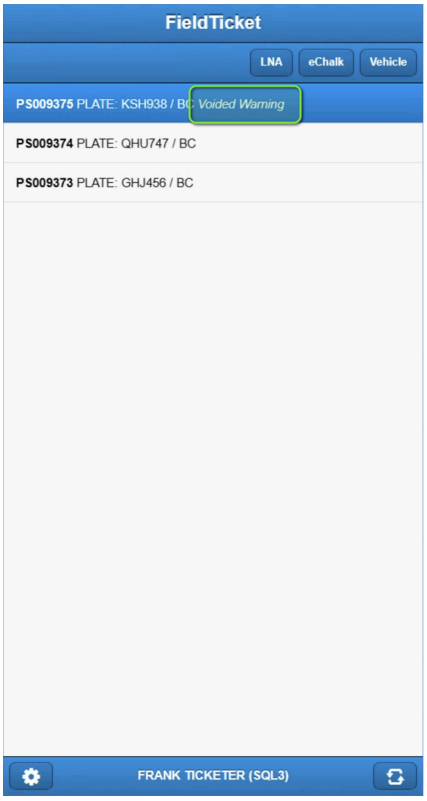


Note that the Officer's comment of “NO FRONT PLATE” has had “This is a warning only. DO NOT PAY.” added to the it. The added text can be configured with the <warningcomment> setting (see “Other control settings” in the Installation/Setup section: warningcomment).

Warning tickets are left un-voided in case you need to re-print or add more photos. After you have printed a Warning ticket, you should void it as soon as possible. FieldTicket will prompt you if there are any un-voided Warning tickets in your list whenever you try to exit FieldTicket or create a new ticket as a safety.

The main screen clearly identifies the tickets that need to be voided, displaying *WARNING* (in bold) beside any tickets that need to be voided. To void the Warning, tap it, and tap Void ticket:





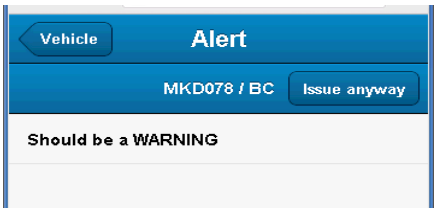
After adding a void reason, and confirming that you want to void the ticket, the main screen will show *Voided Warning* for the ticket.

See the Voiding a Ticket section below for more information on voiding.

Optionally identifying offences that should be given Warning tickets

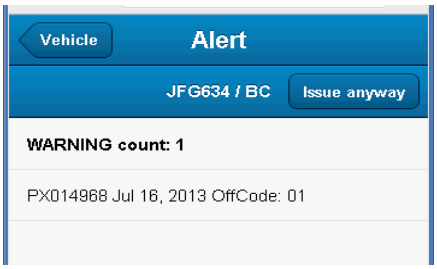
The system can be set up to pre-Issue Alert when using the Issue function when a plate/prov is being issued a ticket on a defined list of offences. If your City wishes to only issue a ticket after at least one warning has been given, this may be helpful to your Officers. (See "Other control settings" in the Installation/Setup section: warningoffences, warningexact, warningdetails).

For example, if you were to Issue a ticket that had not been given a Warning yet, the pre-Issue Alert screen would show:



If you then decided you should create a Warning ticket, you would go back to the entry screen, and tap the Warning button instead of Issue.

When a vehicle has at least one warning, the pre-Issue Alert screen would show:

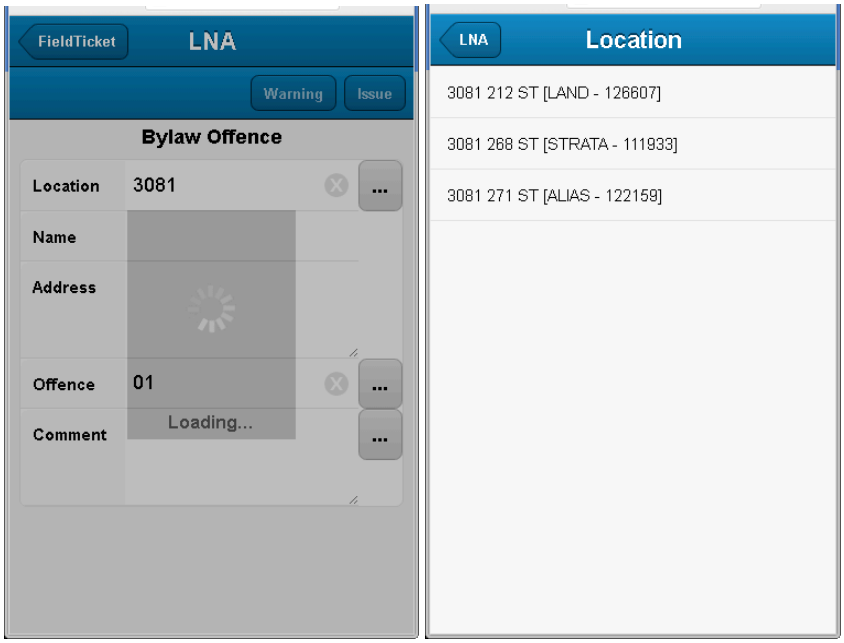


Creating a new LNA ticket

Begin by tapping the LNA button in the top-right of the main screen. (If you have 2 LNA ticket types defined in your setup, then you will get a menu allowing you to tap which type of LNA ticket you want to create next.) Now you will get the LNA ticket entry screen:

On this screen you must enter the Location, Name, Address and Offence fields. If you wish to link up to a property in the Tempest system, enter part of an address into the Location field (the house number usually works best) and tap the […] button.

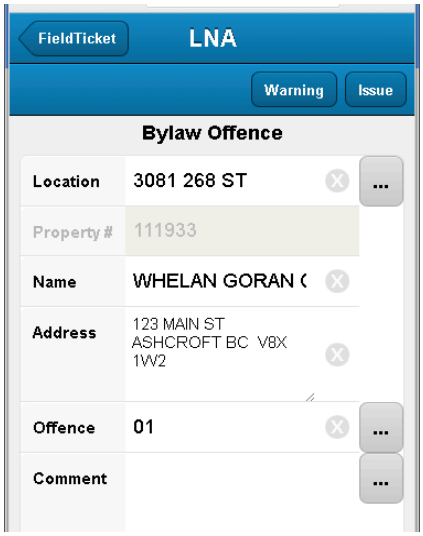
If we enter 3081 into the location, and tap the […] button, the system will search Tempest for any properties with the house number of 3081:



The Location screen shows the matching addresses with [property type - property number] at the end. Tapping on one of the items in the list shows us the Name/Address for the selected item:

Here we have the choice of {none} or the names and mailing addresses from the associated owner in Tempest for the Location we selected above.

Choosing {none} will fill in the location and property number from Tempest, but leave the name and address for us to fill in manually. Choosing one of the items with a name and address will fill in the location, property number, name and address for us:

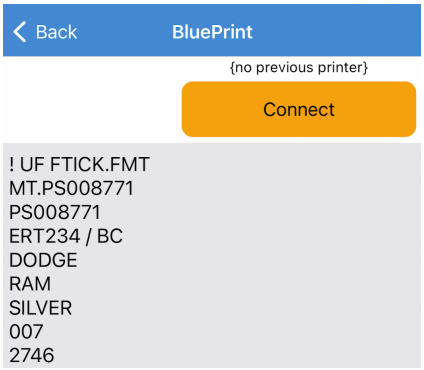


Any of the fields can be edited manually at this point, however, if we change anything in the location field – the property number will be removed. This is because the system no longer can guarantee a link to the Tempest property. (If you want the property link back, simply redo the […] search and choose the same property again.)

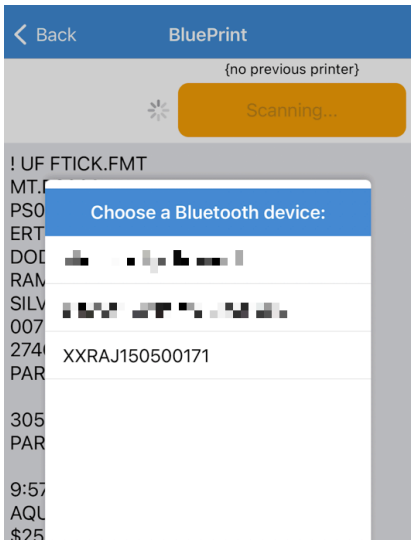
The Offence and Comment fields also have ellipsis […] buttons beside them, to allow you to quickly choose a value from a pick list. The data in these lists is downloaded from Tempest when you Authenticate.

More about ticket printing

FieldTicket has a built-in system called BluePrint (when the Settings > Print App setting is Internal) to print tickets on your Zebra printer. The very first time you hit the Print button, FieldTicket takes you to BluePrint to allow you to connect to a printer:



Turn on the Zebra printer, and tap the orange Connect button, which will show you a list of BlueTooth devices (for iOS – nearby BTLE devices (you may need to enable BTLE on your Zebra printer if you don't see any printers appear); and for Android – previously paired BlueTooth devices in Settings > BlueTooth), including your printer:



Your Zebra printer will have a S/N printed on the back of the printer, which corresponds to the name shown in the list (unless you changed the “friendly name” of the printer, then use that).

Tap your printer in the list, and BluePrint will connect to it:

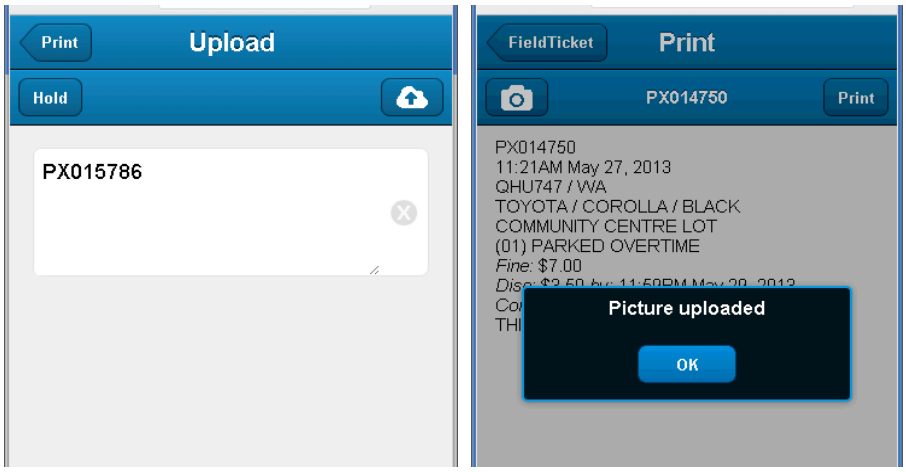
After connecting, the chosen printer is displayed up in the top right corner, and the green Print button will now print the ticket and send you back to the Review screen. Once you are connected, FieldTicket will automatically just print – not showing you the BluePrint screen. If your printer is turned off or otherwise disconnected, then the BluePrint screen be shown again – at which point you can reconnect with the same printer you chose earlier after turning it on again.

Hint: If you start your printer before starting FieldTicket, it will connect automatically with your previously-connected printer when you start up FieldTicket saving you the step of having to connect on the BluePrint screen when you go to Print.

If you want to change printers, just long-press the Print button. This will remove the previously-connected printer, and allow you to start the connection process again.

Attaching photos

On the Print screen, the camera button will open the device's camera allowing you to take a photo and attach it to the ticket in Tempest. FieldTicket will ask you for the picture source - either Camera or Roll. Choose Roll if you want to use a picture that you have previously taken. Once you have selected or taken the picture, you will be returned to the Upload screen where you must enter a description – which gets saved in Tempest (the description defaults to the Ticket #):

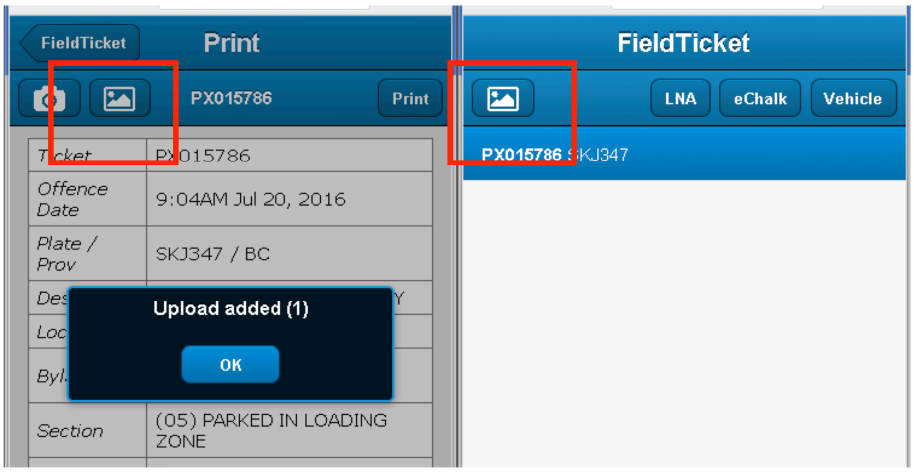


When you are done, tap the Upload button in the upper-right, and the picture will be uploaded and attached to the Tempest ticket.

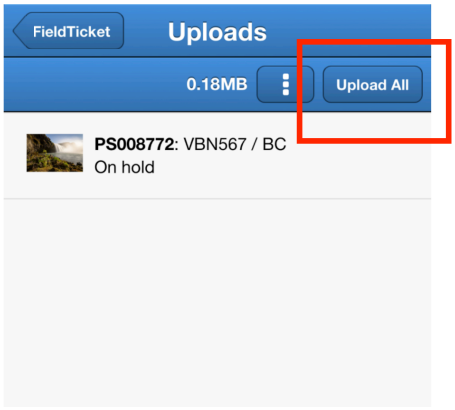
To change the resolution stored, see Settings > Image Size where you can choose either 800, 1200 or 1600 as the maximum long-side (in pixels) stored for Uploaded images. Depending on the resolution setting chosen, this can take a minute or so to upload. Also note that if you choose Camera as your picture source, once uploaded - photos are not stored on your device.

You can also optionally tap the Hold button at the Upload screen. This places the picture onto an on-hold list, waiting for you to later upload. This can be useful when you don't want to take the time to wait for each upload to happen as you are writing tickets, or you wish to upload pictures later when in a WiFi area (which can save data charges). As you add pictures to the on-hold list, they are stored along with all the information needed to attach them to the right tickets later when uploading to Tempest.

When at least one picture is on hold, the Image button is displayed on both the Print and Main screens:

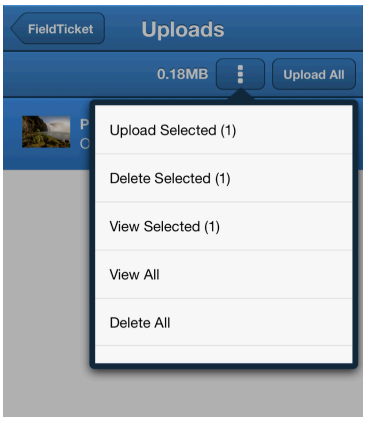


You can upload on-hold pictures at any time from either button. Once in the Uploads screen you can tap the Upload All button to attach the pictures to their respective tickets in Tempest:

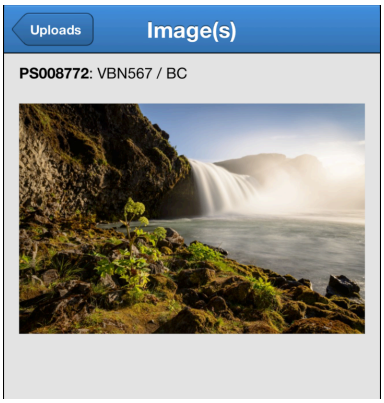


On-hold pictures are stored on your device, and are available for upload even if you exit FieldTicket and later want to go back in and upload.

The ... button has more options if you have selected individual photos from the list:

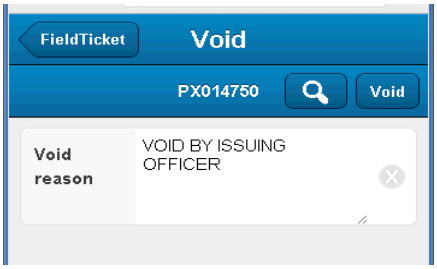


If you choose either of the View options, an Image(s) screen will display a list of the pictures selected along with the ticket information that goes with them:



Voiding a Ticket

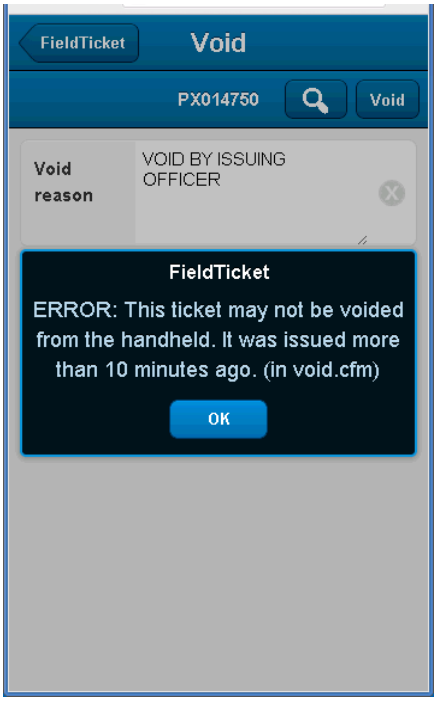
From the home screen, tapping a ticket (that is not voided) on the list will bring up the ticket menu, where you can tap on Void ticket, and the Void screen is displayed, with the default reason “VOID BY ISSUING OFFICER” filled in:



The magnifying glass button will display a list of common void reasons. If the ticket is a Warning, the reason “Warning” will automatically be filled in for you.

Once you have entered the reason, tap the Void button, and FieldTicket will attempt to void the ticket.

Only tickets at a certain status can be voided, other statuses will bring up error messages, such as:



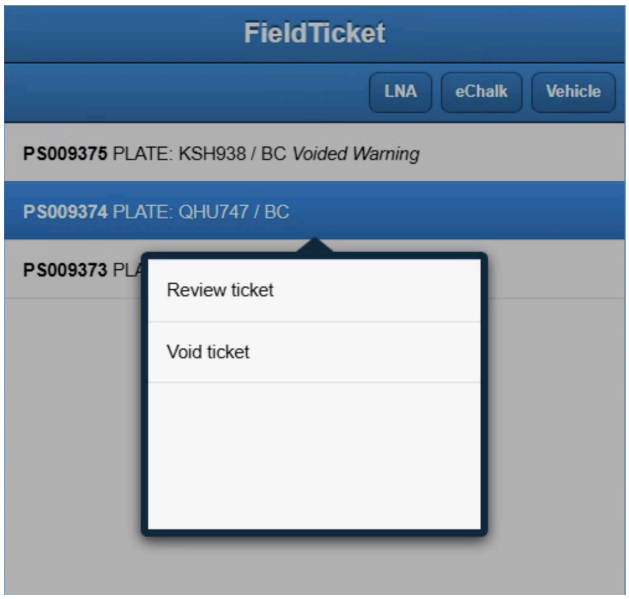
FieldTicket (by default) will only allow you to void non-Warning type tickets that were issued less than 10 minutes ago. You can override the timing on how long a ticket can be voided with a server setting.

Additionally, if a ticket has any financial transactions on it in Tempest (other than the Levy transaction used to create the ticket), the ticket cannot be voided from the device.

Once a ticket is voided (indicated by *Voided* in italics), tapping on that ticket on the main screen will no longer bring up the ticket menu, as you are not allowed to reprint or void a voided ticket.

Reviewing a ticket

From the home screen, tapping a ticket (that is not *Voided*) on the list will bring up the ticket menu:

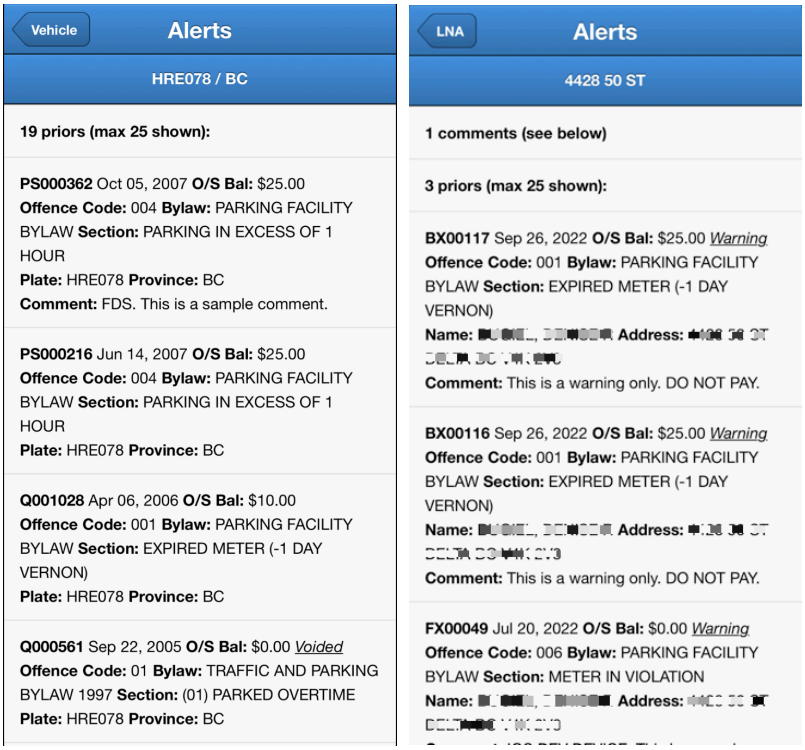


Tap on Review ticket, and the Review screen is displayed again, where you can continue to attach photo(s), and/or print the ticket again.

Alerts

Before creating a ticket in Tempest, FieldTicket looks for existing tickets with:
Vehicle tickets: the same Plate and Province, PayByPhone payments for the plate, whether the plate/prov is on the exempt list, and whether there are any plate comments.
LNA tickets: the same property (by property number), and whether there are any property comments.

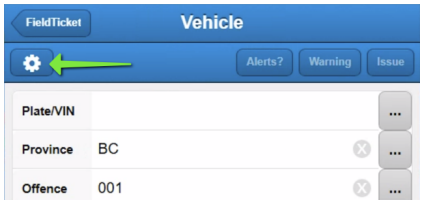
If any of these are found, an Alerts screen is displayed:

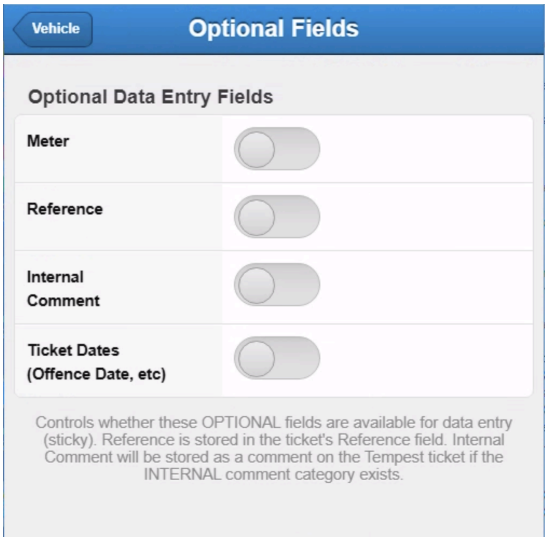


Both Vehicle and LNA ticket entry screens have an “Alerts?” button to perform all of the same checking, but does not Issue or Warn.

Optional ticket data entry fields

You can control (individually on each device) whether optional data entry fields Meter, Reference, Internal Comment, Ticket Dates are available or not. On Vehicle or LNA entry screens, tapping the gear button at the top left shows you the optional fields available for turning on/off:





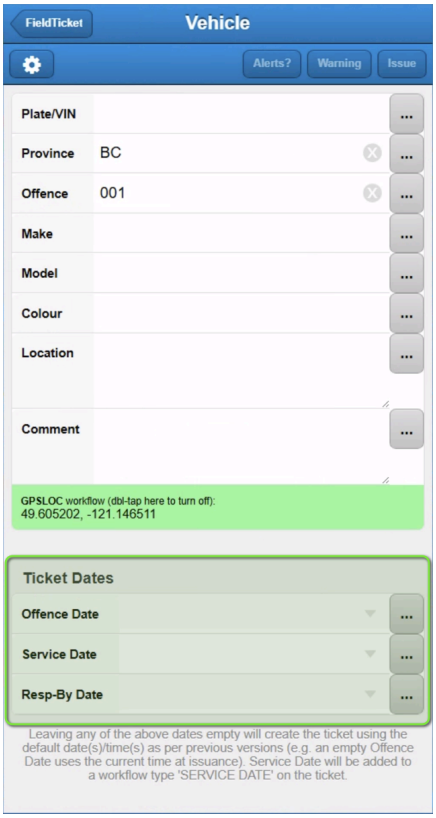
The Meter option is not shown when coming from LNA.

Tap the switch to turn on/off field(s), and tap Ok. Your choice is remembered from one session to the next, and you can easily come back to the gear button to change your selection, even from one ticket to the next.

One additional thing has to be done to enable the Internal Comment. Your Tempest Ticketing system administrator will have to create a Ticketing Comment Category named INTERNAL otherwise the text entered into the Internal Comment field on the device will not be stored anywhere.

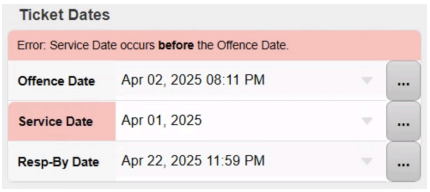
Ticket Dates

Turning on the Ticket Dates optional field set, allows you to optionally enter the Offence Date, Service Date and Resp-By Date:



All of the Ticket Dates fields are optional. If all fields are left blank, FieldTicket will use today for Offence date/time, and the calculated number of days from the Tempest ticket-type setup for Resp-By date/time.

Errors and warnings are shown to make sure that dates make sense:

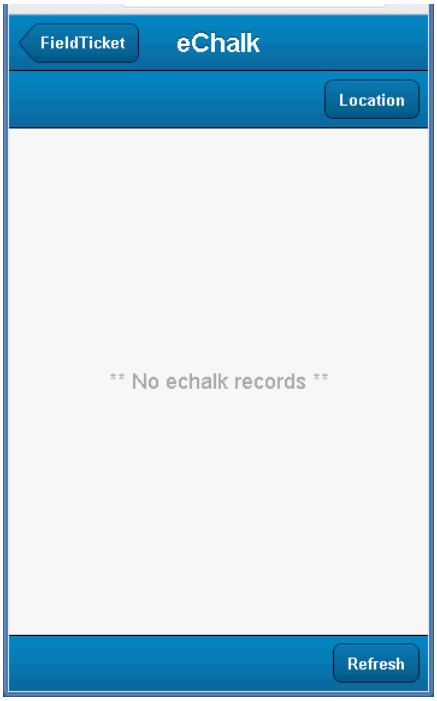


Service Date is stored in a workflow named SERVICE DATE, and if you always want to record a service date even if not entered (defaults to today), a setting <svcdatealways>Y</svcdatealways> can be added. See the “Other Control Settings” section for details.

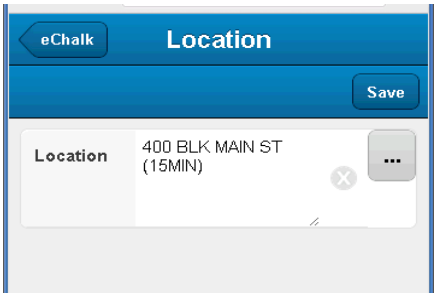
eChalking

If you use a manual method of recording parked vehicle locations, you may find the eChalk function useful. Use eChalk to record the tire, valve, plate and province in one easy-to-use screen that tracks how long each vehicle has been parked. When you are ready to ticket, plate, province, location and a pre-formatted comment are copied to the ticket entry screen!

To begin eChalking, tap the eChalk button on the main screen to bring up the eChalk list:

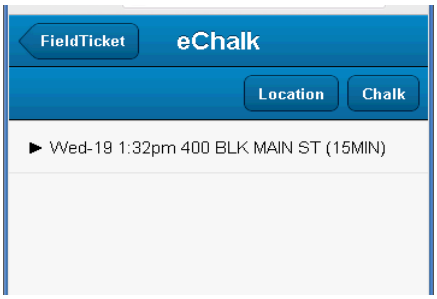


The list is empty, so the screen shows “No echalk records”. To begin, you need to tap the Location button. Type the location that you are chalking (or select from your location list with the … button):



and tap the Save button.

Now, the eChalk list will show one item, and the Chalk button is displayed:



Now, we can begin chalking this location. Tap the Chalk button:

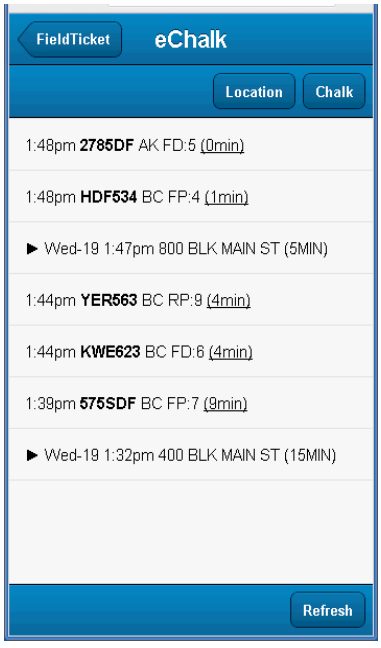
The Tire field records which tire you are chalking (FD = Front-Driver, FP = Front-Passenger, RD = Rear-Driver, RP = Rear-Passenger); and the Valve field records the 1-12 o'clock location of the valve stem on that tire. Enter a plate, and change the province from the default if necessary, and tap Save:

As records are added to the list, the most recent record is shown at the top. The chalking time, plate, province, tire, valve and elapsed time since chalking are displayed in a chalk record.

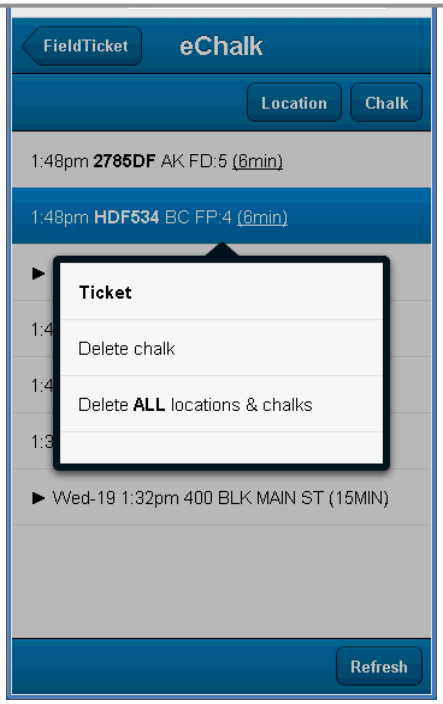
As we add chalks to this location, they are pushed to the top of the list:

The Refresh button at the bottom of the screen will refresh the elapsed time of the chalk records, so you can always get the most recent calculation of how many minutes ago you chalked a vehicle.

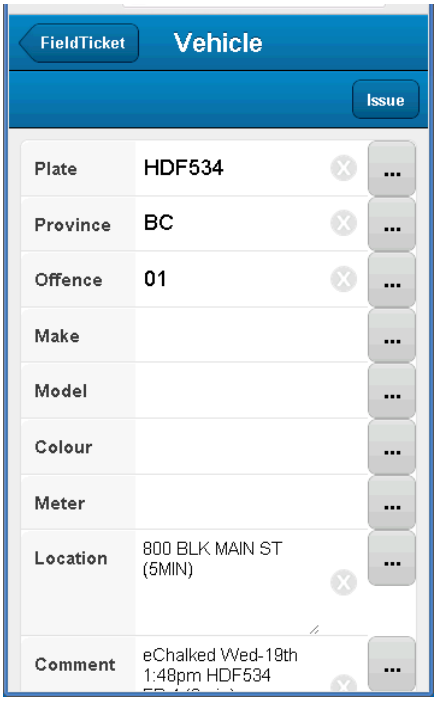
Let's add one more location and a few chalks:



Now let's say that we want to ticket the HDF534 vehicle. Tap on the item in the echalk list to pop up a menu:



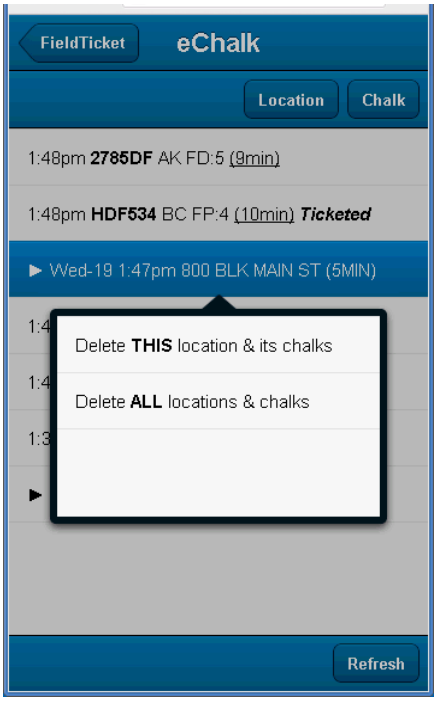
Tap the Ticket menu item:



From here, you would simply need to fill in the Make, Model and Colour (if desired), and tap Issue.

Once the ticket is completed, if you go back into the eChalk screen, you will see that the HDF534 vehicle now shows that it has been ticketed:

To remove a location and all its chalk records (those above it – to the next location), tap on the location record, and choose the "Delete THIS location & its chalks" item:



After confirming that you really want to delete, the location and its chalks are removed:

To delete a single chalk record, tap on the echalk item, and choose “Delete chalk”.

To delete all locations and echalk records, tap on any item, and choose “Delete ALL locations & chalks”. This will completely wipe all echalk information.

2. Installation/Upgrading

Note: If you are upgrading from a previous version, see the notes near the end of this section regarding upgrading. Then read through the rest of this section for further information.

System Requirements

Device:

Both iOS and Android phone and tablet devices are supported.

Because device versions are generally a fast-moving target it makes little sense to add a specific device list here. If you are purchasing new devices, just make sure you purchase late models that support Bluetooth SPP (every major device we know of lately has this, so it is not too much of a worry).

For Android, QA testing occurs on Samsung devices, and so these are generally recommended. Please contact support@mpowered.biz if you have other questions.

Bluetooth printer:

FieldTicket supports only industry-standard, high quality Zebra (www.zebra.com) printers – such as the ZQ510 and ZQ511. Printers must have the optional Bluetooth module installed (check carefully if ordering yourself), and if you intend to use the printer with iOS, must also have the Bluetooth Low Energy (BTLE) module as well.

Web Services:

IIS servers must be capable of creating an Application Pool with a .NET CLR Version of at least v4.0.30319
The current targeted .NET version is 4.7.2

Tempest Licences:

Ticketing
Web Customer

Technical Specialist Tasks

Because these next item(s) may take some time, these are shown out of context here right away so the appropriate technical specialist can get them set up, hopefully by the time everything else in this document is ready to go.

Firewall – allow http traffic - External to/from Internal

The FieldTicket webservices security model uses an External/Internal model – where the External webservices do nothing but proxy requests from the Webapp through to the Internal webservices using http (usually, although you can use https as well). This model isolates the exposure of crucial database connection settings to only the Internal webservices machine.

```
Task: Create a firewall from/to rule for http (or https)  back
and forth from the External/Internal machines.
```

Firewall – allow http traffic – to http://www.mpowered.biz

The FieldTicket webservices check for updates on this server, and if not enabled will cause a serious slowdown until a timeout condition is achieved.

```
Task: Create a firewall to rule for http://www.mpowered.biz
```

Network Service account with read/write permissions to the Ticketing Attachments Directory (see G. in the Technical Overview below)

The MpoweredApps Application Pool (that will be created in IIS in an installation step below) on the Internal machine will need an account with Read/Write access to the Tempest attachments folders (as well as having local administrator permissions so it can run the webservices).

```
Task: Create* a new (high-powered) network service account
(e.g. mpowered-webservices) for the MpoweredApps app pool (to
be created below) that has local administrator permissions AND
also has read/write permissions for the Tempest Ticketing
attachments directory as defined in Tempest > Ticketing >
Configuration > System Parameters > Attachments Directory.
```

* If you have already created this account for another Mpowered app, you could just add the read/write permissions to that account for the Tempest Ticketing attachments directory as defined in Tempest > Ticketing > Configuration > System Parameters > Attachments Directory.

Create database user MpoweredWeb

Create a database user named MpoweredWeb in each Tempest database (usually LIVE and TEST) that you wish to access.

Grant database user MpoweredWeb database access permissions

Grant the permissions to MpoweredWeb as found in \Docs\dbgrants.txt which contains a list of permissions specific to each FieldTicket version or update. As each new FieldTicket version or update is released, this list may change, so stay up-to-date as a missed permission will cause problems for users.

IMPORTANT!: After performing a Tempest update (or group of updates), you will need to re-grant the permissions, because unfortunately the Tempest update process does not retain 3rd-party permissions.

Download the Install package

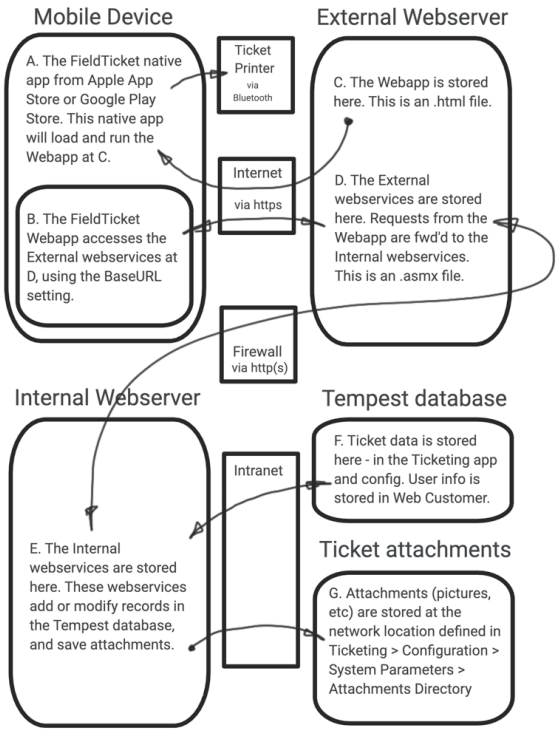
Go to www.mpowered.biz and click on Downloads. Here you will find links to various packages that match recent versions of Tempest. For example, if your Tempest version is 80000, you would download the highest install package starting with 800, in this case 80005. This will download the ZIP package, for example FieldTicket-80005.zip, which you can then extract into a working directory on your webservers.

Contents of the ZIP package

Once the ZIP package is extracted, you will find this structure:

\Docs
\Dotnet
\Printer
\Webapp

Technical overview of the FieldTicket structure:



A. The device (iOS or Android) downloads and runs the "Mpowered FieldTicket" native app from the App or Play Store. When the app is run, it will ask for a Webapp URL, which is located at C. When the "Go FieldTicket" button is tapped, the native app loads and runs the Webapp (B).

B. The Webapp is what Officers interact with to produce tickets – the top portion is shown here:

One of the main configurations within the Webapp is the Base URL setting when it needs to get or set data in Tempest by sending requests over the Internet (via https) to the External webservices located at D.

D. The External webservices forward requests (through the firewall via http) from the Webapp (B) to the Internal webservices (E). The Web.config file for D is very simple, containing only a base location for the Internal webservices (E).

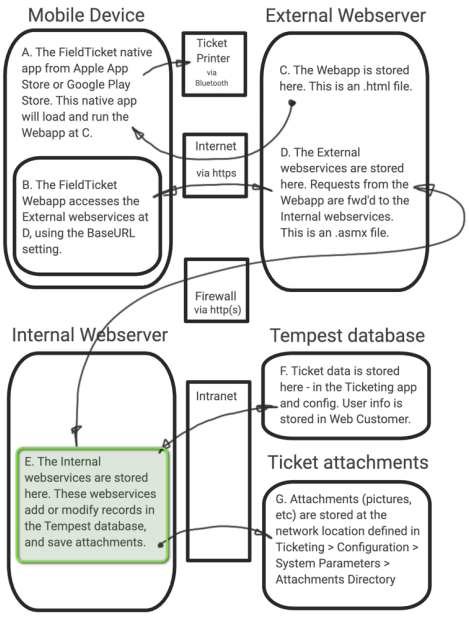
E. The Internal webservices process requests from the External webservices (D) – usually getting or setting data in the Tempest database (F) and/or attachments (G), and then responding back (through the firewall) to the External webservices (D) which then responds back to the Webapp (B). The Web.config file for E contains a connection string to the Tempest database, therefore it can be encrypted - if that level of security is desired.

NOTE: C (the Webapp) & D (the External webservices) must exist on the same https webserver.

Installation order

We are going to install each piece of the puzzle, making sure each part works correctly before moving on to the next part. We'll start with installing the Internal Web Services (E), then move on to installing the External Web Services (D) and Webapp (C), do any configuration needed in Tempest (F), and then finish by installing and running FieldTicket on the device (A + B).

E. Internal Web Server - Installing the Web Services



On your <u>internal</u> (behind the firewall) web server, create a home directory for the Mpowered .NET webservices if you don't already have one… something like:

```
C:\inetpub\wwwroot\Mpowered\FieldTicket-80005WS
```

Option 1: If your back-end database is **SQL Server**: copy the entire \Dotnet**Redmond*** directory contents from the download here. Now on your internal web server, you should have this structure:

```
…\wwwroot\Mpowered\FieldTicket-80005WS\
      bin\
            FT80005.dll
            FieldTicket.asmx
            Web.config.internal.txt
            Web.config.external.txt    * delete this file
```

Delete the Web.config.**external**.txt file

Only use one of these options! The Redmond dll will not work with Oracle, and similarly, the Oracle dll will not work with SQL Server.

Option 2: If your back-end database is **Oracle**: copy the entire \Dotnet**Oracle*** directory contents from the download here. Now on your internal web server, you should have this structure:

```
…\wwwroot\Mpowered\FieldTicket-80005WS\
      bin\
            FT80005.dll
            Oracle.ManagedDataAccess.dll
            Oracle.ManagedDataAccessDTC.dll
            FieldTicket.asmx
            Web.config.internal.txt
```

Now edit the Web.config.internal.txt file and look for a section with the tag <connectionStrings> near the bottom. Here you will see a sample connection string for SQL Server named "MpoweredSQL", and one for Oracle named "MpoweredORA". You can completely remove the line that doesn't apply to your site. DON'T change the first part of the connection string name, i.e. "MpoweredSQL" or "MpoweredORA".

With the connection string you will use, edit it so that YOURHOST becomes the server name where the Tempest database lives, and INSTANCE becomes the name of the database instance. Also, change the Password= to the MpoweredWeb password you created earlier. (NOTE: the password is entered in clear text here – this file should be secured (or encrypted) so that only people with proper permissions can view this file.) If you don't know the server name or password values, you may have to talk with your Database Administrator.

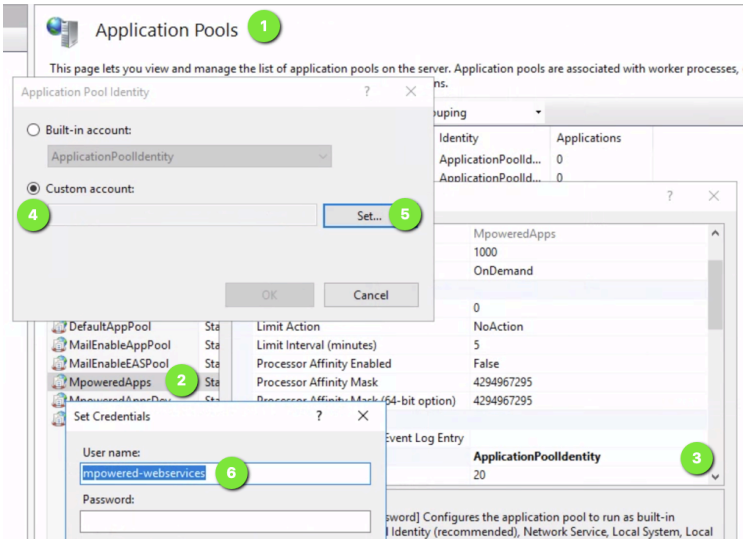
Note: you can have multiple connection strings in this file, for example you could have an MpoweredSQLProd and an MpoweredSQLTest connection string each pointing to the Production and Test Tempest databases. When you enter the Authentication settings on the mobile device, you choose which DSN (connection string) to use.

Very important to rename this file!

Save and exit. Rename the Web.config.internal.txt file to **Web.config**

Now we need to fire up IIS Manager on the internal web server. Browse into Application Pools, and right-click and choose Add Application Pool. Create a new pool named "MpoweredApps" using .NET CLR Version v4.0.30319 (if you do not have this version, you will need to install MS .NET Framework 4.5 on this machine), Integrated, Start application pool immediately ON. Click on the newly created pool, and browse to Advanced Settings on the right side menu. Make sure that Enable 32-Bit Applications is set to True.

This is also where we need to change out the default Identity (account) that IIS creates for this App Pool.



Still in the Application Pools > MpoweredApps > Advanced Settings, scroll down to the Identity item (3), and click on the ... beside ApplicationPoolIdentity. Click on Custom account (4), Set... (5), and add the credentials (6) for the account that was created in the "Technical Specialist Activities > Network Service account" task above. Click OK a number of times till you are done with all dialog boxes.

Now on the left tree, browse down to Sites > Default Web Site > Mpowered and right-click on FieldTicket-80005WS. Choose Convert to Application. Keep the Alias as FieldTicket-80005WS, but select Application pool MpoweredApps, and click OK. This should change the icon in the tree to:  .

Now right-click on FieldTicket-80005WS again, and choose Manage Application > Browse. The default browser should appear with the FieldTicket .NET services listing, containing links for AA_ServiceInfo, AB_ServiceTest, AC_DatabaseTest, etc. Click on AC_DatabaseTest. If you are a SQL Server site, you can just hit Invoke; otherwise you will need to enter something like <root><dsn>MpoweredORA</dsn></root> into the postedGET field and hit Invoke. You should get an XML page that says "SUCCESS: Found nnnn rows in the mti_tickets table". This means that the DSN was set up correctly, and we are getting a connection to the Tempest database.

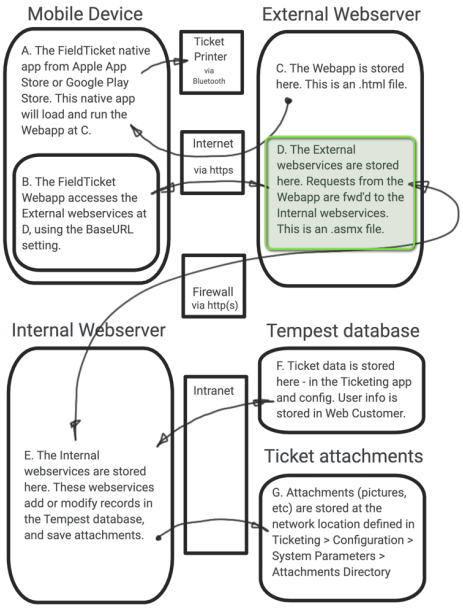
For SQL Server, if you get the message "Timeout expired. The timeout period elapsed prior to completion of the operation or the server is

not responding." you may be able to solve the issue by running "exec sp_updatestats" on the database.

That completes the set-up of the internal web server.

Note that if you are using a web application firewall (for example, Barracuda's Web Application Firewall - WAF), you probably will not need to set up the external webserver as described in the remaining part of this section below - the WAF will manage the external/internal forwarding.

D. External Web Server - Installing the Web Services



(Before starting, read through the section "Creating a virtual application for the External webservices" below as it may affect how you name directories here.) The set up of the external webserver is almost identical to the internal webserver setup. On your external (outside the firewall) webserver, create a home directory for the Mpowered .NET webservices… something like:

```
C:\inetpub\wwwroot\Mpowered\FieldTicket-80005WS
```

Copy the entire \Dotnet\Redmond directory from the download here. Now on your external webserver, you should have this structure:

The Redmond directory is used on the external server for both SQL Server and Oracle.

```
…\wwwroot\Mpowered\FieldTicket-80005WS\
      bin\
            FT80005.dll
            FieldTicket.asmx
            Web.config.internal.txt    * delete this file
            Web.config.external.txt
```

Delete the Web.config.**internal**.txt file

Now edit the Web.config.external.txt file and look for a section with the tag <appSettings> near the bottom. Here you will see a "requestForwardTo" key. It is the value that you must edit to point to the webservices location on the internal webserver (through the firewall). You may need to get your firewall expert to help you figure this one out. In most cases you will simply need to change {ip} to the ip address of the internal webserver (as seen from outside the firewall).

Very important to rename this file!

Save and exit. Rename the Web.config.internal.txt file to **Web.config**

Now we need to fire up IIS Manager on the external webserver. Browse into Application Pools, and right-click and choose Add Application Pool. Create a new pool named "MpoweredApps" using .NET CLR Version v4.0.30319 (if you do not have this version, you will need to install MS .NET Framework 4.5 on this machine), Integrated, Start application pool immediately ON. Click on the newly created pool, and browse to Advanced Settings on the right side menu. Make sure that Enable 32-Bit Applications is set to True, and click OK.

Now on the left tree, browse down to Sites > Default Web Site > Mpowered and right-click on FieldTicket-80005WS. Choose Convert to Application. Keep the Alias as FieldTicket-80005WS, but select Application pool MpoweredApps, and click OK. This should change the icon in the tree to:  .

Now right-click on FieldTicket-80005WS again, and choose Manage Application > Browse. The default browser should appear with the FieldTicket .NET services listing, containing links for AA_ServiceInfo, AB_ServiceTest, AC_DatabaseTest, etc.

Click on AB_ServiceTest and hit Invoke. You should get an XML page that says "SUCCESS". This means that the "requestForwardTo" key was set up correctly, and we have a connection to the internal web service.

Close the browser, and right-click on FieldTicket-80005WS (in IIS Manager) again, and choose Manage Application > Browse. This time click on AC_DatabaseTest. If you are a SQL Server site, you can just hit Invoke; otherwise you will need to enter something like `<root><dsn>MpoweredORA</dsn></root>` into the postedGET field and hit Invoke. You should get an XML page that says "SUCCESS: Found nnnn rows in the mti_tickets table". This means that the external/internal connection is working, and the internal webservices are proxying correctly to the Tempest database.

Creating a virtual application will save you time in the future, and allows you to easily deploy updates to devices.

<u>Creating a virtual application for the External webservices</u>
If you are interested in saving time and staging updates as they are released by Mpowered, you could name the above directory:

```
C:\inetpub\wwwroot\Mpowered\FieldTicket-80005WS-START
```

Then, creating a virtual application in IIS at the \Mpowered level called “ftws” and pointing it to FieldTicket-80005WS-START will allow you to use a Base URL that looks like this:

https://yourserver/mpowered/ftws/FieldTicket.asmx/

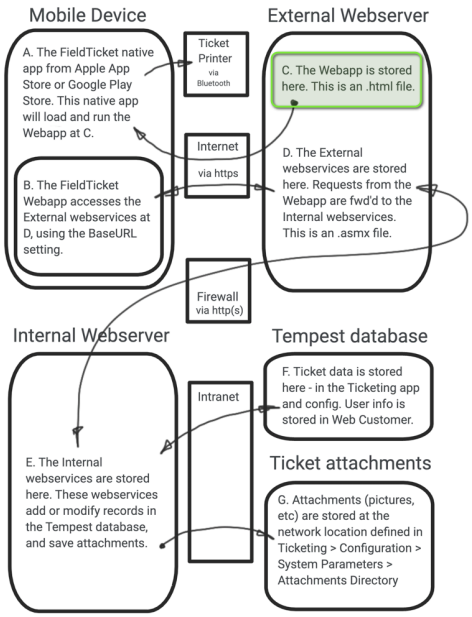
Using a virtual application can save you time when its time to upgrade. So, for example, when and if there is an update, and UPDATE01 is released, you could create a new directory:

```
C:\inetpub\wwwroot\Mpowered\FieldTicket-80005WS-UPD01
```

and install the updated webservices there. When you have finished testing the update and are ready to release to your users, simply change the Physical Path in the virtual application ftws in IIS to point to the new directory, and all users with devices that have a Base URL of: https://yourserver/mpowered/ftws/FieldTicket.asmx/
will automatically start using the new webservices without changing anything on their device the next time they start the app.

It's still a good idea to let the Officers know that an update is happening! Schedule the update for a time after everyone has finished for the day.

C. External Web Server - Installing the Webapp



(Before starting, read through the section "Creating a virtual directory for the Webapp" below as it may affect how you name directories here.) On your external (outside the firewall) webserver, create a versioned directory for the Webapp… something like:

```
C:\inetpub\wwwroot\Mpowered\FieldTicket-80005WA
```

Copy the entire \WebApp directory from the download here. Now on your external webserver, you should have this structure:

```
…\Mpowered\FieldTicket-80005WA\
      FieldWorksX\
      lib\
      resources\
      app_nnnnnnnnnnnnnnn.js
      favicon.ico
      index.html
```

Creating a virtual directory will save you time in the future, and allows you to easily deploy updates to devices.

Creating a virtual directory for the Webapp

If you are interested in saving time and staging updates as they are released by Mpowered, you could name the above directory:

```
C:\inetpub\wwwroot\Mpowered\FieldTicket-80005WA-START
```

Then, creating a virtual directory in IIS at the \Mpowered level called "fieldticketwa" and pointing it to the FieldTicket-80005WA-START will

allow you to use a Webapp URL on the device app that looks like this:

https://yourserver/mpowered/ftwa/index.html
Using a virtual directory can save you time when its time to upgrade. So, for example, when and if the Webapp gets an update, and UPDATE01 is released, you could create a new directory:

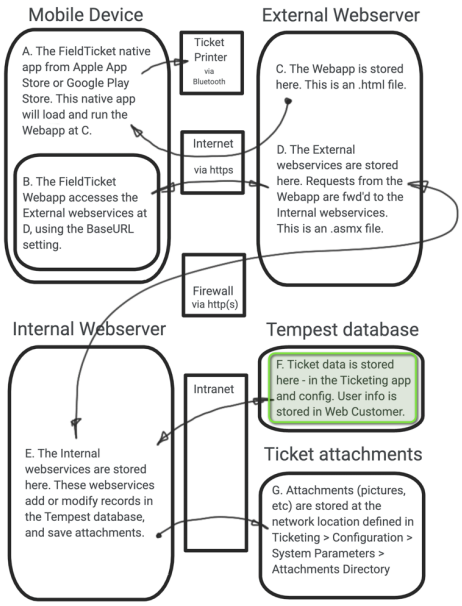
```
C:\inetpub\wwwroot\Mpowered\FieldTicket-80005WA-UPD01
```

and install the updated Webapp there. When you have finished testing the update and are ready to release to your users, simply change the virtual directory ftwa in IIS to point to the new directory, and all users with devices that have a Webapp URL of:
https://yourserver/mpowered/ftwa/index.html
will automatically start using the new Webapp without changing anything on their device the next time they start the app.

It's still a good idea to let the Officers know that an update is happening! Schedule the update for a time after everyone has finished for the day, and get everyone to force-close the FieldTicket app when they're done for the day.

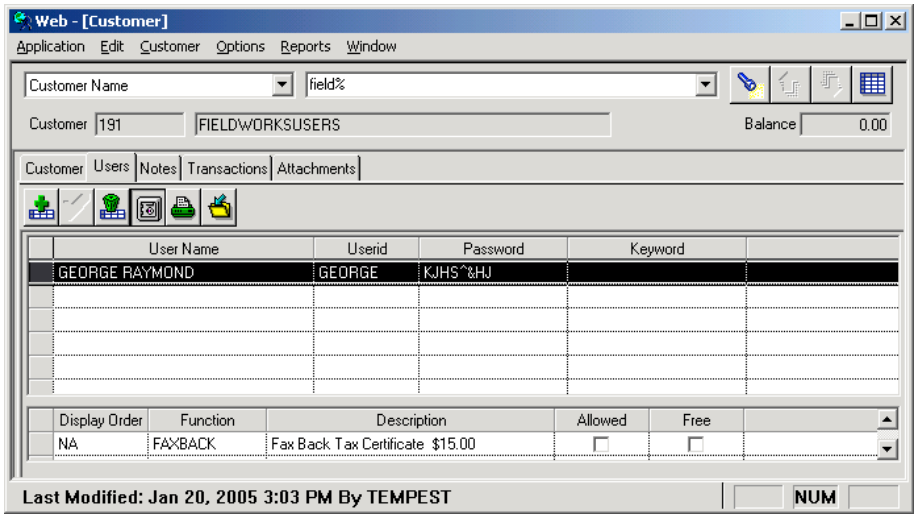
That completes the set-up of the external webserver.

F. Tempest Configuration



Create the FIELDWORKSUSERS customer in Web Customer

In Tempest Web Customer, create the FIELDWORKSUSERS customer. Make the user an INTERNAL type. Then, create the Ticketing user in the FIELDWORKSUSERS users whose UserId corresponds to the user's actual database UserID:



In this example, we have created user GEORGE RAYMOND. George is an Ticketing user, and logs into Tempest with the UserID GEORGE. You also need to set a password for GEORGE. This will be the password GEORGE will need to enter on the device in the next steps. In our example, GEORGE's password is KJHS^&HJ

The users created in the FIELDWORKSUSERS customer should not have any functions turned on.

You will need to create a user in the FIELDWORKSUSERS customer for each user of FieldTicket.

Enabling Active Directory network passwords

As a more secure (and user-friendly) option to using the Web Customer password (as shown above) is to enable network password authentication via MS Active Directory. To use network password authentication, your Tempest User Ids must match the Active Directory name.

1. Activating for individual FieldTicket users: Add these settings in the Internal Web.config in the <appSettings> branch as follows:

```
<add key="domain" value="CORP" />
<add key="domainmodel" value="WCKEYWRD" />
```

changing CORP to the name of your corporate active directory name. Then, for each user that you want to switch from Web Customer password to network password, change their keyword in Web Customer to "AD". That FieldTicket user should be advised to Authenticate with their network password.

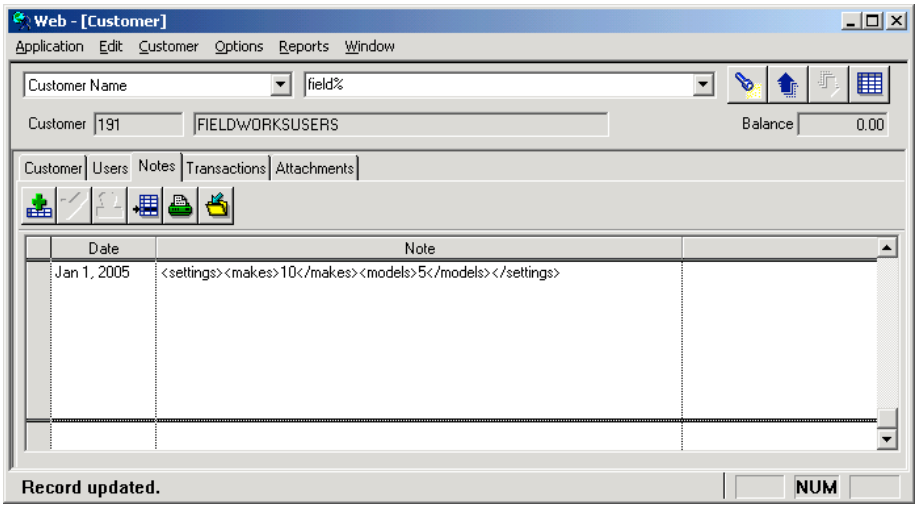
2. Activating for all FieldTicket users all at once (usually for new customers): If you are switching password models, it may be better to use option 1, because activating with this option will instantly apply to all FieldTicket users, and if they are not aware of the change, they will be asked to Authenticate, and be stuck trying to use their Web Customer password which will not work anymore! To activate network passwords for all FieldTicket users, add a setting in the Internal Web.config in the <appSettings> branch as follows:

```
<add key="domain" value="CORP" />
```

changing CORP to the name of your corporate active directory name. This should be a planned change, and FieldTicket users should then be advised to Authenticate with their network password.

Control Settings

FieldTicket control settings are stored as an XML string in the Notes tab of Web Customer for the FIELDWORKSUSERS, in a note dated Jan 1, 2005:



The XML string entered into the note must be formatted correctly for FieldTicket to interpret the settings correctly (see XML notes). The basic format is:

```
<settings>
        <makes>10</makes>
        <models>5</models>
</settings>
```

With this XML string we are overriding FieldTicket's default load of 15 makes with 10, and 10 models/make with 5. Note that the XML can be "crunched" to remove whitespace, if desired:

```
<settings><makes>10</makes><models>5</models></settings>
```

All overrides are entered between the <settings> and </settings> tags. The following XML string shows an additional override of the default number of colours loaded:

```
<settings>
        <makes>10</makes>
        <models>5</models>
        <colours>20</colours>
</settings>
```

For most settings, if a setting is not provided in the XML string, a default value is used by FieldTicket.

Settings used when authenticating in Preferences:

Setting	Default (if no setting given)	Allowed Range	Description
makes	15	10 – 100	Number of makes loaded (based on your data's top used makes). Authentication will take longer the higher this number is. If the MMC flag is N (server or handheld), makes are not loaded.
models	10	0 – 50	Number of models loaded per make. Authentication will take longer the higher this number is. If the MMC flag is N (server or handheld), models are not loaded.
colours	15	5 – 50	Number of colours loaded (based on your data's top used colours). Authentication will take longer the higher this number is. If the MMC flag is N (server or handheld), colours are not loaded.
prefix		1 – 3 chars, all chars must be alpha (A – Z)	Used when you want to force all handhelds to use the same prefix. Individual handheld setting is used if no server override is given.
series		3 – 9 chars, all chars must be 0's	Used when you want to force all handhelds to use the same series. Individual handheld setting is used if no server override is given.
usemmc		Y or N	Used when you want to force all handhelds to collect Make, Model and Colour. Individual handheld setting is used if no server override is given.
platedblchk	N	Y or N	Used when you want to force all handhelds to require re-entry of plates before issuing.
lna1type		Any string, for example 'Bylaw'	Used when you want to force all handhelds to use the same name for the 1st LNA ticket type. Individual handheld setting is used if no server override is given.
lna1prefix		1 – 3 chars, all chars must be alpha (A – Z)	Used when you want to force all handhelds to use the same prefix for the 1st LNA ticket

Setting	Default (if no setting given)	Allowed Range	Description
			type. Individual handheld setting is used if no server override is given.
1na1series		3 – 9 chars, all chars must be 0's	Used when you want to force all handhelds to use the same series for the 1st LNA ticket type. Individual handheld setting is used if no server override is given.
lna2type		Any string, for example 'False Alarm'. Cannot be set if lna1type is not set.	Used when you want to force all handhelds to use the same name for the 2nd LNA ticket type. Individual handheld setting is used if no server override is given.
lna2prefix		1 – 3 chars, all chars must be alpha (A – Z)	Used when you want to force all handhelds to use the same prefix for the 2nd LNA ticket type. Individual handheld setting is used if no server override is given.
lna2series		3 – 9 chars, all chars must be 0's	Used when you want to force all handhelds to use the same series for the 2nd LNA ticket type. Individual handheld setting is used if no server override is given.
pbpurl		Any string	Make sure you have entered a valid PayByPhone url. You will receive the url either directly from PayByPhone or from Mpowered.

Settings used when printing tickets:

Setting	Default (if no setting given)	Allowed Range	Description
ticknumout	1	1	What part of the ticket number to print onto the ticket: 1 = prefix & series (e.g. PX12345) **Note that value 2 has been removed.**
pagewidth	40	30 - 60	In printing the ticket, used to control where long line splitting occurs for bylaw and section descriptions. The number given is the maximum number of characters in a print line.
bylawsectionoutput	1	1 - 5	What parts of the bylaw and section to print onto the ticket: 1 = Bylw #, Bylw Desc, Sect #, Sect Desc 2 = {blank}, Bylw Desc, {blank}, Sect Desc 3 = {blank}, {blank}, Sect #, Sect Desc 4 = {blank}, {blank}, {blank}, Sect Desc 5 = Bylw #, {blank}, Sect #, Sect Desc
discmsg1	If paid before		Printed along with the discount amount and date/time, if the fine has a "Disc. Fine" amount. E.g. If paid before 11:59pm Jul 17, 2005 the fine is reduced to: $25.00
discmsg2	fine is reduced to:		See above.
extamt1	1	0 – 3	Extended amount 1 to print out if the fine has a Reminder or Warning amount: 0 = {blank} 1 = fine + reminder amt 2 = fine + warning amt 3 = fine + rem + warn amt Note that if the Reminder or Warning amount to be used for calculating the extended amount is null, {blank} is printed.

Setting	Default (if no setting given)	Allowed Range	Description
extamt1msg1	If not paid within 28 days from		If the Reminder or Warning amount to be used for calculating the extended amount is null, OR extamt1 = 0; {blank} is printed.
extamt1msg2	Issued Date, the fine is increased to:		If the Reminder or Warning amount to be used for calculating the extended amount is null, OR extamt1 = 0; {blank} is printed.
extamt2	0	0 – 3	Extended amount 2 to print out if the fine has a Reminder or Warning amount: 0 = {blank} 1 = fine + reminder amt 2 = fine + warning amt 3 = fine + rem + warn amt Note that if the Reminder or Warning amount to be used for calculating the extended amount is null, {blank} is printed.
extamt2msg1	If not paid within 65 days from		If the Reminder or Warning amount to be used for calculating the extended amount is null, OR extamt2 = 0; {blank} is printed.
extamt2msg2	Issued Date, the fine is increased to:		If the Reminder or Warning amount to be used for calculating the extended amount is null, OR extamt2 = 0; {blank} is printed.
comments	N	Y or N	When set to Y, comments can be optionally printed onto the ticket. The ticket layout (FTICK.FMT) must be "enabled" for comments for this to occur.

Other control settings:

Setting	Default (if no setting given)	Allowed Range	Description
piawodate			Pre-Issue Alert Write Off date. See below for notes.
warningoffences		A comma-separated list of offence codes in quotes, for example '01','02','03'	Controls checking for Warning tickets. If blank or not supplied, no checking is done. If supplied, and a ticket is Issued with an offence matching one in the list, a check is done for prior Warning tickets for the entered plate/prov.
warningexact	Y	Y or N	If Y, the Warning check is done on only the offence entered on the current ticket, otherwise the Warning check is done on all offences in the warningoffences list.
warningdetails	Y	Y or N	If Y, the details of prior Warning tickets are displayed in addition to the count of Warnings.
warningcomment	This is a warning only. DO NOT PAY	Any text	For Warning tickets, this comment is used regardless of what was entered.
warningtext		Any text, for example "WARNING ONLY. DO NOT PAY"	If supplied, will print the supplied text for Warning tickets. If supplied, you must alter the LBL file on your printers to add one additional line, similar to: T90 4 1 600 1000 \\
warningkeephhcmnt		FRONT or BACK	If FRONT or BACK supplied, will keep the Officer's comment (if any) and add the warningcomment (see above) to either the front or the back of the Officer's comment.
warningtext		Any text, for example "WARNING ONLY. DO NOT PAY"	If supplied, will print the supplied text for Warning tickets. If supplied, you must alter the LBL file on your printers to add one additional line, similar to: T90 4 1 600 1000 \\
priorsreqbal	Y (legacy – FT has operated as if this flag is Y in the past)	Y or N	When checking for prior offences, if there were 20 offences found, but none had an os balance, Y would not

Setting	Default (if no setting given)	Allowed Range	Description
			show the priors, while N would show the priors.
voidtimeout	10	0-120	For non-Warning tickets only: 0 means that voiding is not permitted, 1-120 is the number of minutes from issuance that a ticket may be voided within. Note that Warning tickets can be voided at any time.
warningdoalerts chk	N	Y or N	A setting of Y will turn on Alert checking for VEH Warning tickets (effectively making Warning tickets do all the same checks as regularly-issued tickets do).
ocfilters		Any text **	**See below for notes
svcdatealways	N	Y or N	A setting of Y will always record a value into the SERVICE DATE workflow. With this setting set to Y, if no service date is entered on the ticket entry screen, SERVICE DATE will be set to the current day.

Notes for <ocfilters>:
Optional. This tag allows you to default automatic offence code filters for both Vehicle and LNA tickets. The tag value must be in the format: vehfilter~lnafilter. Both filters can optionally be a regular expression – a powerful way of searching for text. A sample would be:
<ocfilters>^[0-9]{3}.*?~^[a-z]-.*?</ocfilters> or, if only doing VEH tickets:
<ocfilters>^[0-9]{3}.*?~</ocfilters>
Creating suitable regular expressions for filters can be tricky, so if you need any advice, please contact Mpowered.

Notes for <piawodate>:
Optional. The value must be a date of the form "YYYYMMDD", for example **20100401**. A valid date will indicate that this alternate method of processing pre-issue alerts will take effect. Any other value (including non-date values) will have no effect – i.e. pre-issue alert processing will be handled as it always has. (Allowing existing customers to not have to make any changes.)

If the control setting described above is valid; when processing the ticket entry form data and existing tickets with the same plate/province are found; and if those tickets have:

1) An o/s balance, **OR**
2) A zero balance **AND** the ticket has REFERRED TO COLLECTION wf **AND** is not followed by PAID AT COLLECTIONS wf **AND** the ticket was issued on or after the <piawodate>

then a flag will be set, which will cause the system to display the pre-issue Alert screen (as described below).

The pre-issue Alert screen will display information similar to the following:

3 Comments (see below) {these are plate comments}

67 priors (max 25 shown)

PX013701 Mar 10, 2011 $110.00 [Sec. 22] {after <piawodate>}
PX013154 Oct 20, 2010 $0.00 [Sec. 14] {after <piawodate>}
PX013001 Sep 14, 2010 $0.00 PAC [Sec .13] {after <piawodate>}
PX012452 Apr 1, 2010 $0.00 RTC [Sec. 44] {after <piawodate>}
PX012002 Feb 17, 2010 $0.00 [Sec. 44] {bfore <piawodate>}
…

XML notes

XML has a special set of characters that cannot be used in normal XML strings. These characters are:

& - &
< - <
> - >
" - "
' - '

For example, the following XML string is invalid:

<Organization>IBM & Microsoft</Organization>

Whereas the following is valid XML:

<Organization>IBM & Microsoft</Organization>

Note that we have replaced '&' with '&' in the second XML string which makes it valid. In the following XML overrides, you will get a message stating, “XML override is not well-formed” when you try to authenticate - if you do not handle the special character(s) properly.

If you wish to get more assistance in building your XML strings, there are several very good (and free!) XML editors out there on the net. A particularly good one is at:

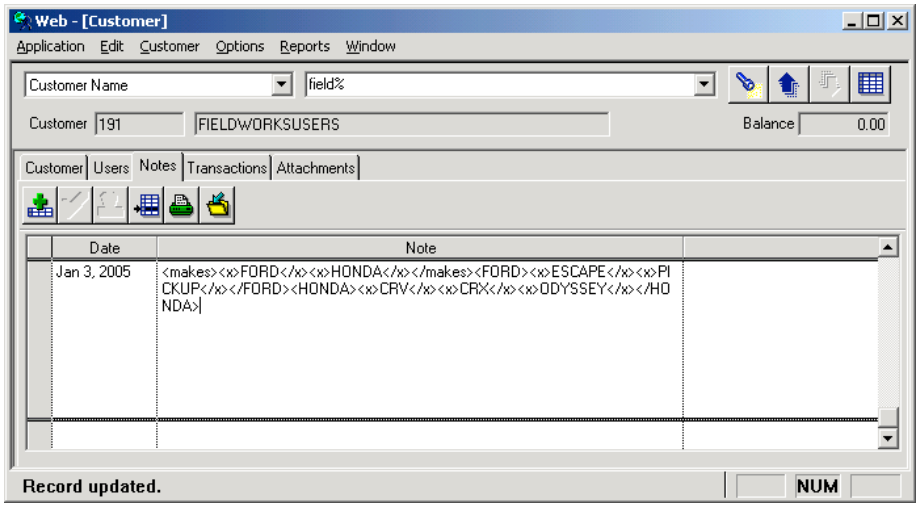
http://architag.com/xray/

Optionally, override "Makes/Models" in Web Customer

Instead of loading the top makes and models from the existing ticket data in Tempest, you can override the pick list of makes/models by 1) by using a note in WebCust, or 2) using a text file on the webserver. Option 2, if used, will trump option 1. (Note: you should only use Option 2 if you find that the makes/models list needs to be larger than what can be stored in the WebCust note (2000 bytes)). Please contact Mpowered if you wish to override makes/models. A cfm that can get you a good starting point from your data can be run.

Option 1

You can supply a pick list of makes/models with an XML string in the Notes tab of Web Customer for the FIELDWORKSUSERS, in a note dated Jan 3, 2005:



Option 2

You can supply a pick list of makes/models with an XML string in a text file stored in the same web directory as the FieldTicket webservices files. The name of this file must be 'makesmodels.txt'. **Remember that you must back up this file as it is not part of the Tempest database.**

The XML string entered into the note must be formatted correctly for FieldTicket to interpret the makes and models correctly (see XML notes). The basic format is:

```
<makes>
        <x>FORD</x>
        <x>HONDA</x>
</makes>
<FORD>
        <x>ESCAPE</x>
```

```
        <x>PICKUP</x>
</FORD>
<HONDA>
        <x>CRV</x>
        <x>CRX</x>
        <x>ODYSSEY</x>
</HONDA>
```

Note how the makes listed each have a subsequent list of models in the XML string.

The <makes></makes> tags **MUST** be in lowercase. Also note that any sub-tags in the <makes> branch cannot have spaces in it. For example, the following will cause errors:

```
<makes>
        <x>FORD OF CANADA</x>
        …
```

If you have makes with spaces in them, use dashes, for example:

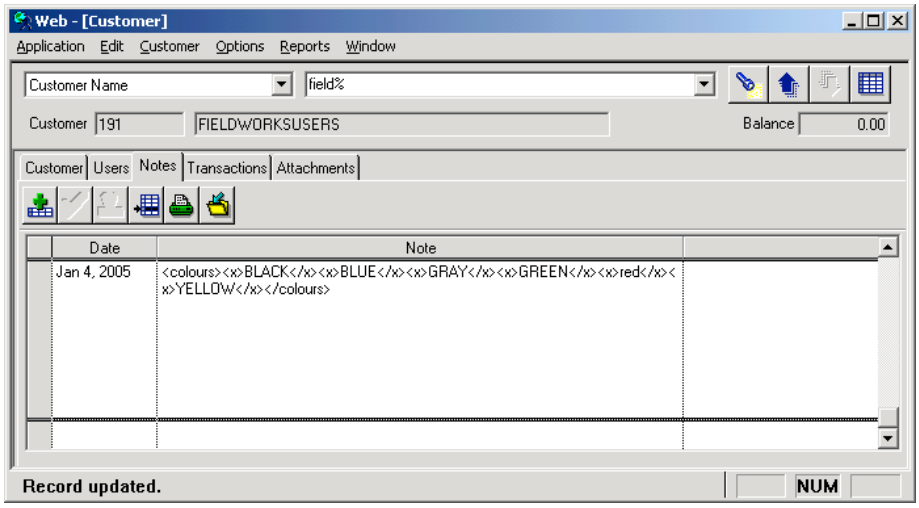
```
<makes>
        <x>FORD-OF-CANADA</x>
        …
```

The case of the makes must match in both lists, i.e. use either upper case or lower case. This example uses all lowercase:

```
<makes>
        <x>ford</x>
</makes>
<ford>
        <x>aerostar</x>
        <x>escape</x>
        <x>pickup</x>
        <x>probe</x>
</ford>
```

Optionally, override “Colours” in Web Customer

Instead of loading the top colours from the existing ticket data in Tempest, you can override the pick list of colours by supplying an XML string in the Notes tab of Web Customer for the FIELDWORKSUSERS, in a note dated Jan 4, 2005:



The XML string entered into the note must be formatted correctly for FieldTicket to interpret the colours correctly (see XML notes). The basic format is:

```
<colours>
        <x>BLACK</x>
        <x>BLUE</x>
        <x>GRAY</x>
        <x>GREEN</x>
        <x>red</x>
        <x>YELLOW</x>
</colours>
```

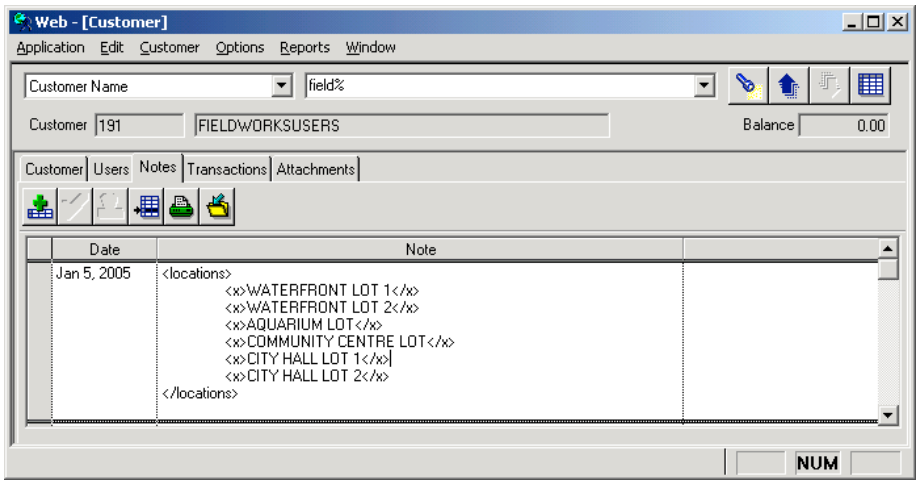
As with all pick list overrides, FieldTicket will uppercase the fields fields before sending to Tempest. In the above example, “red” woud appear in lowercase in the Colours pick list, but FieldTicket would uppercase it to RED before sending to Tempest.

Optionally add a "Locations" pick list

Optionally, a Locations pick list can be added by 1) by using a note in WebCust, or 2) using a text file on the webserver. Option 2, if used, will trump option 1. (Note: you should only use Option 2 if you find that the locations list needs to be larger than what can be stored in the WebCust note (2000 bytes)).

Option 1

You can supply a pick list of locations with an XML string in the Notes tab of Web Customer for the FIELDWORKSUSERS, in a note dated Jan 5, 2005:



Option 2

You can supply a pick list of locations with an XML string in a text file stored in the same web directory as the FieldTicket webservices files. The name of this file must be 'locations.txt'. **Remember that you must back up this file as it is not part of the Tempest database.**

The XML string entered into the note (or file) must be formatted correctly for FieldTicket to interpret the locations correctly (see XML notes). The basic format is:

```
<locations>
        <x>WATERFRONT LOT 1</x>
```

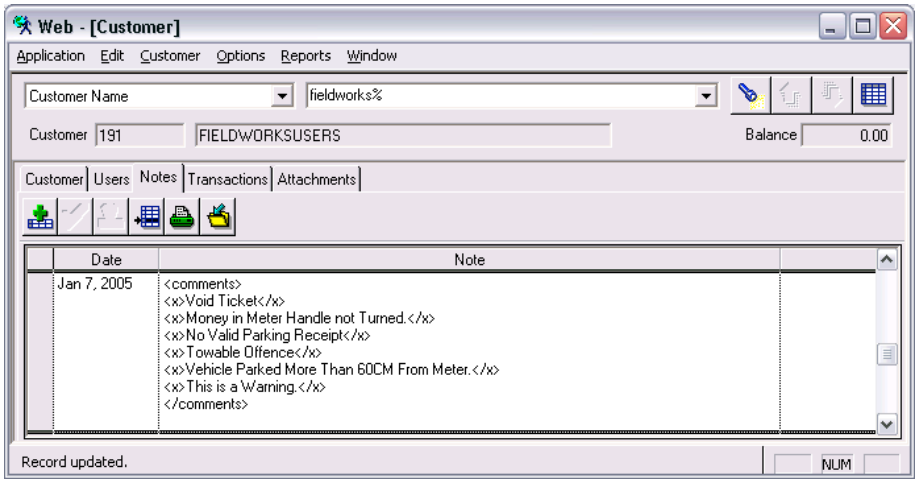
```
        <x>WATERFRONT LOT 2</x>
        <x>AQUARIUM LOT</x>
        <x>COMMUNITY CENTRE LOT</x>
        <x>CITY HALL LOT 1</x>
        <x>CITY HALL LOT 2</x>
</locations>
```

Optionally add a "Comments" pick list

Optionally, a Comments pick list can be added by 1) by using a note in WebCust, or 2) using a text file on the webserver. Option 2, if used, will trump option 1. (Note: you should only use Option 2 if you find that the comments list needs to be larger than what can be stored in the WebCust note (2000 bytes)).

Option 1

You can supply a pick list of comments with an XML string in the Notes tab of Web Customer for the FIELDWORKSUSERS, in a note dated Jan 7, 2005:



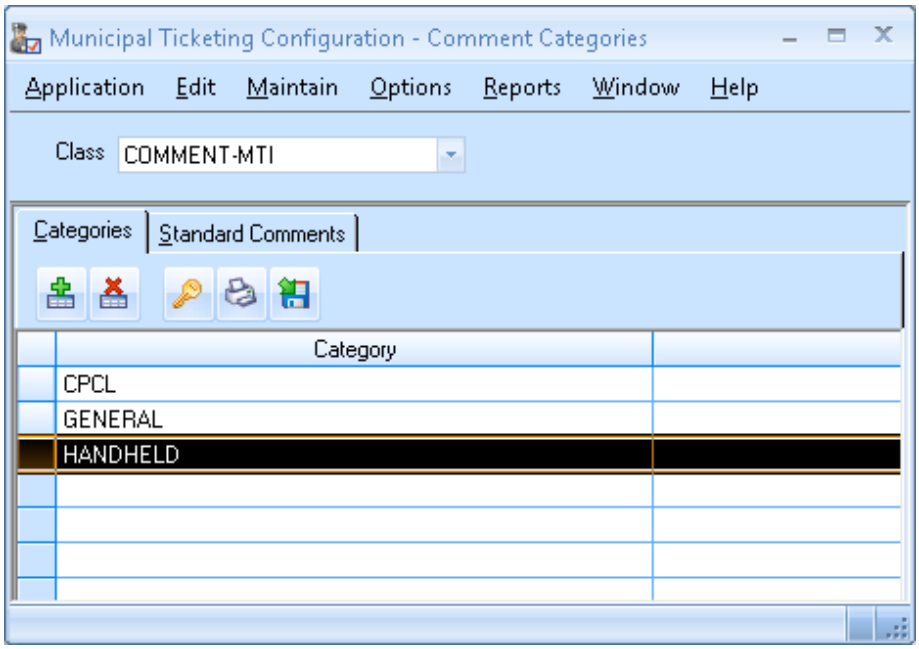
Option 2

You can supply a pick list of comments with an XML string in a text file stored in the same web directory as the FieldTicket webservices files. The name of this file must be 'comments.txt'. **Remember that you must back up this file as it is not part of the Tempest database.**

The XML string entered into the note (or file) must be formatted correctly for FieldTicket to interpret the locations correctly (see XML notes).

Options for ticket comments

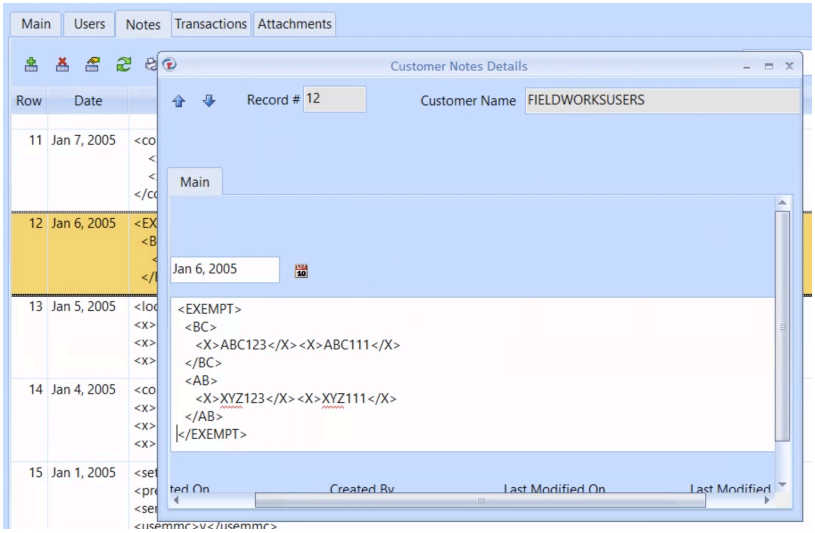
FieldTicket will optionally insert ticket comments into Ticketing Ticket Comments. This is the recommended method of storing comments as a COMMENT indicator appears on the main ticket window in Tempest when comment(s) exist. To enable this, you must create a comment category called HANDHELD:



You must also ensure that the TempestWeb user has INSERT privileges on land_relation and land_notes.

Exempt plates

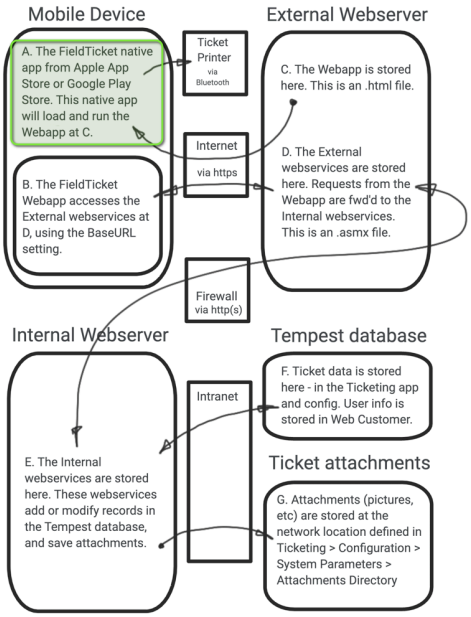
FieldTicket will check an exempt list to allow you to stop issuing tickets to specific plate/province combinations. You can supply a pick list of locations by supplying an XML string in the Notes tab of Web Customer for the FIELDWORKSUSERS, in a note dated Jan 6, 2005:



In the above example, we have two exempt plates for BC: ABC123 and ABC111, and two exempt plates for Alberta: XYZ123 and XYZ111.

This is the end of the Tempest setup section.

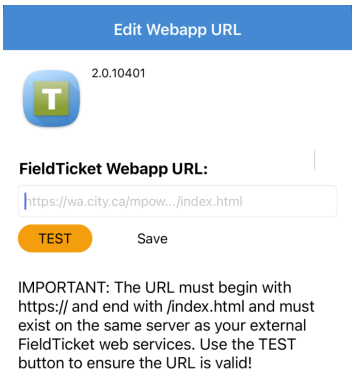
A. Load the FieldTicket app to the device



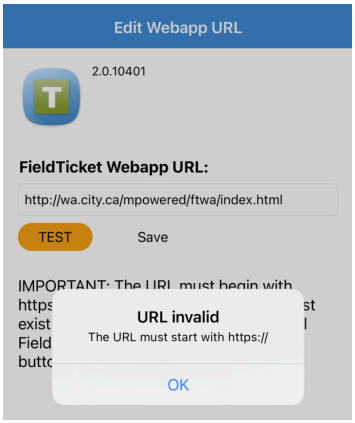
On the App or Play Store, search for **Mpowered FieldTicket**. The app's icon looks like this:

Tap the Install button to install the app on your device.

When you first open the FieldTicket native app on the device, it looks like this:



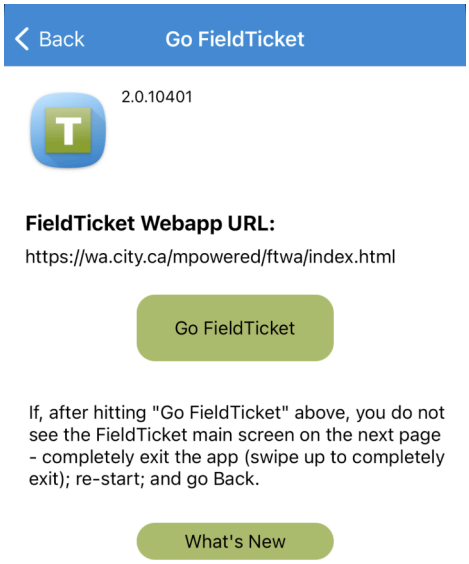
In the field, enter the URL to the virtual directory you created in step C above, and press TEST. NOTE: the TEST button can only check certain formatting of the URL, not whether it actually exists, so BE CAREFUL about what you are typing in here. For example, here we missed the s in https:



(Devices will often have an auto-correct feature which will change what you enter here mostly without you knowing, and mess things up. It's best to temporarily turn off auto-correct when entering the Webapp URL.)

Once you are sure about what you have entered, press the Save button.

Now, you will have the Go FieldTicket screen:

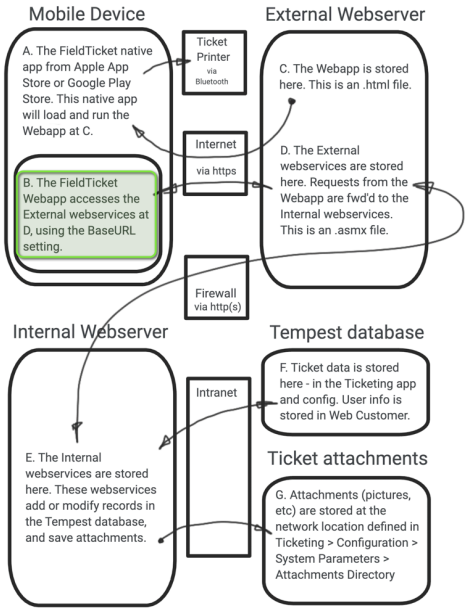


In the future, FieldTicket will always start with this screen, now that you have entered a Webapp URL. Tap Go FieldTicket, and in a few seconds, the Webapp will appear.

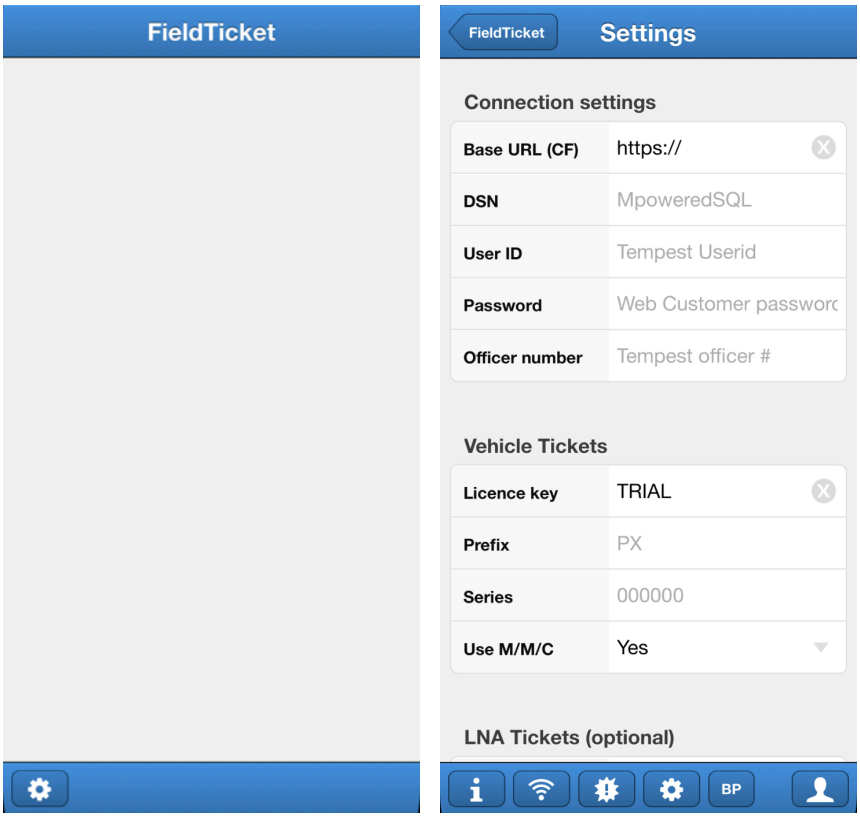
(That is, if everything was entered correctly, the Webapp will appear. If, after the spinner stops, you have a pure white screen, or you get a message like “The specified URL cannot be found.”, then its probable that something wrong in the Webapp URL entry. Swipe-close (i.e. completely close) the app, run it again, and review the Webapp URL shown. If it's wrong, then you can use the Back button (upper left) to go back and edit the Webapp URL and try again.)

If all went well, you should see the FieldTicket app appear with the gear icon in the lower left corner – as shown in the next section, and you can carry on with setting up the FieldTicket Webapp.

B. FieldTicket Webapp setup



Tap the Gear button in the lower left corner to get to the Settings screen:



Connection settings

Connection settings are required as this establishes the location (on the Internet) of the webservices allowing FieldTicket to communicate with Tempest data, as well as establishing your credentials.

Change the defaults to your site's specific values, for example:

Base URL: the location of your webservices root on the external server, e.g.:
https://wa.city.ca/mpowered/ftws/FieldTicket.asmx/

After entering the Base URL, you can test whether FieldTicket can reach it by tapping the Radar button. The messages shown will indicate if your Base URL is reachable.

DSN: the .NET (e.g. MpoweredSQL) Data Source Name.

User ID: the Web Customer ID as created above in the step "Create the FIELDWORKSUSERS users in Web Customer".

Password: the Password as created above in the step "Create the FIELDWORKSUSERS users in Web Customer".

Officer Number: the Officer number from Ticketing who will be writing Tickets on this device.

Vehicle Tickets

Licence key: the 5 character licence key supplied to you by Mpowered. If you wish to use FieldTicket on a trial basis, leave the Licence key set to TRIAL. You will have 10 days of full functionality trial usage from the time you first ran FieldTicket on your device. Licence keys can be purchased from Mpowered.

Prefix: the Ticket alpha prefix you want to use, e.g. "P" or "PA". May be from 1 to 3 characters. (*)

Series: indicates how long you want the ticket numbers to be. For example, if you want to have ticket numbers up to 99999, you would enter 00000. Must be at least 000. (*)

(*) The Prefix and the Series make up the "mask" from which Ticket numbers are derived. The mask must be from 5 to 10 characters long. Masks may be shared between Officers (i.e. two or more devices could have a mask of "PA00000"). The system is designed to allow this, and as Tickets are created, each user's Tickets will

be interleaved with each other's. Unique Ticket prefixes can also be assigned to individual officers.

Use M/M/C: Choose Yes if you want to require (it's a soft requirement) Officers to enter the Make/Model/Colour for vehicle tickets.

LNA Tickets (optional)

Licence key: the 5 character licence key supplied to you by Mpowered. There is a separate licence key required to create LNA tickets. Licence keys can be purchased from Mpowered.

Type 1 Name: the name used in FieldTicket (not printed) for the 1st LNA ticket type. This can be any string, for example 'Bylaw'.

Type 1 Prefix: the alpha prefix you want to use for LNA type 1 tickets, e.g. "P" or "PA". May be from 1 to 3 characters. (* see above).

Type 1 Series: indicates how long you want the ticket numbers to be for LNA type 1 tickets. For example, if you want to have ticket numbers up to 99999, you would enter 00000. Must be at least 000. (* see above)

Type 2 Name: the name used in FieldTicket (not printed) for the 2nd LNA ticket type. This can be any string, for example 'False Alarm'. LNA type 1 fields must be entered if you want to use LNA type 2 fields.

Type 2 Prefix: the alpha prefix you want to use for LNA type 2 tickets, e.g. "P" or "PA". May be from 1 to 3 characters. (* see above).

Type 2 Series: indicates how long you want the ticket numbers to be for LNA type 2 tickets. For example, if you want to have ticket numbers up to 99999, you would enter 00000. Must be at least 000. (* see above)

Other settings

Image Size: defaults to 1200, but can be set to 800 (normal res), 1200 (medium res) and 1600 (high res). The number chosen will be the number of pixels on the long side of the image.
Print app: defaults to Internal, but can be set to MobiPrint for iOS or BluePrint for Android. Mpowered recommends using Internal – which is the built-in BluePrint so that you don't require an external helper app running.
Rec GPS Locs: turn On to record GPS Locations.
Resp-By Date Required: turn On to force Resp-By date entry.

Debug/support settings

These settings should be changed when working with Mpowered support.

Bottom tool bar

i button: Opens a screen showing contact and technical information, and may be used by Mpowered support during the course of a support call.

Radar button: Useful to determine if you are able to connect to the entered Base URL.

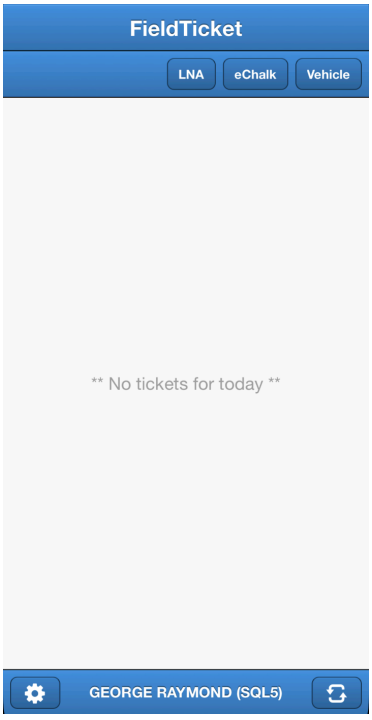
! button: This screen shows information logged by the system, and may be used by Mpowered support during the course of a support call.

Gear button: allows storage of various Settings configurations, usually used by your IT staff or Mpowered developers.

BP button: shows when you have the Print App setting set to Internal. This may be used by your IT dept or Mpowered support during the course of a support call.

Authenticate button

Once you have entered the connection settings, tap the Authenticate button (silhouette). This will validate the information you entered, and bring you to the main screen. The Officer's name (from Tempest) corresponding to the Officer Number entered in Settings will be displayed in the bottom toolbar on the main screen.



Configuring and pairing with Zebra Bluetooth printers

Setting up the Bluetooth printer:

As part of your turnkey installation services, Mpowered would have prepared at least one of your printers, and if you have more, taught your IT staff how to configure additional printers. However, sometimes a tweak is needed, and the document “Configuring Zebra printers using Zebra Setup Utilities.pdf” – included in the download package - describes how to configure your Zebra printer for use with FieldTicket.

The NSTP output system:

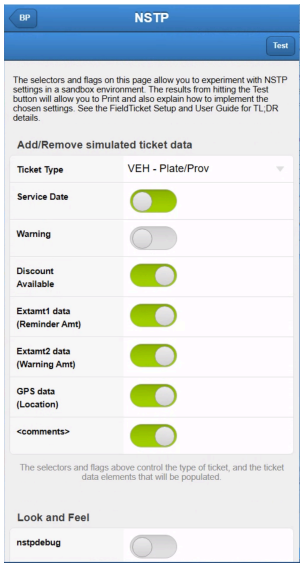
The NSTP output system removes the need for storing LBL files (as described in the “Legacy on-board printer set up” section below) on the printer. Instead, the NSTP system builds these outputs on the server:

1. Ticket Review screen
2. Ticket HTML attachment (optionally PDF)
3. The printed ticket (CPCL code required for the printer)

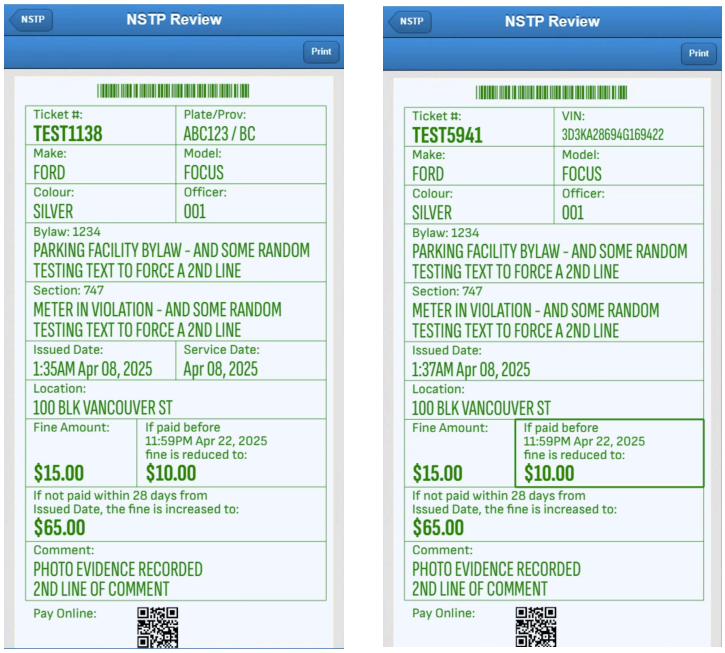
NSTP faithfully outputs virtually the exact same layout to all 3 of the above. By default, 1 and 2 above are turned on, but to enable 3 above requires a special <nstp> tag in your Web Customer settings which looks something like this:

<nstp>~10110000000~575~0~80~0~~~~~~~~</nstp>

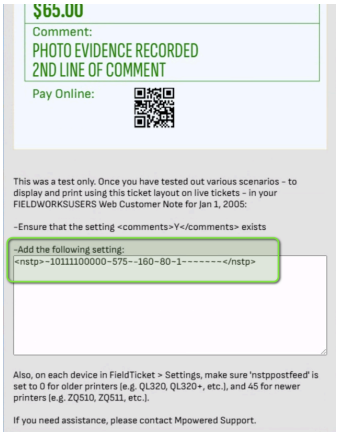
There are many flags and values embedded in this one setting, and to help you build your customized version, a helper tool is available from Settings > BP > {pwd} > Unlock > … > NSTP Tester. The NSTP Tester allows you to test out various combinations of settings, and displays what your <nstp> tag should be:



The Test button will apply the choices you made on the NSTP screen using the built-in default configuration:



You can even Print from the NSTP Review screen, so that you can see how the layout choices work with your preprinted thermal rolls. (Note that the QR code is an advanced customization that will require Mpowered support. The QR code can be made to lead directly to your Tempest ecom system for ticket payment with the ticket pre-filled in.) Once you have the settings the way you want, the bottom of the screen displays the custom <nstp> setting you need:



The setting can be directly copied to your Web Customer Jan 1, 2005 setting, and thereby enabling NSTP for printing as well. NSTP is powerful, and can accommodate most layout requirements. However, if you require advanced customization or any other assistance, please contact Mpowered Support.

Legacy on-board printer set up

Note that it is highly recommended to use the NSTP output system as described above, not this legacy method.

LBL files:

The printer must contain layout file(s) named FTICK.FMT (for vehicle tickets) and optionally FTICK2.FMT (for LNA tickets). The layout files are created using LBL files – of which there are samples included in the download. These LBL files are sent to the printer to create the FMT files, and the procedure to upload these files to the printer is described in the set-up document above. Mpowered would have usually created LBL files and instructed IT as to how to load those files to the printer as part of your turnkey system setup, but if you need changes, Mpowered would be most happy to assist you.

iOS only - pairing with the Zebra printer:

For iOS only, the Zebra printer must have the BLE radio turned on, which is often not turned on when the printer comes from the factory. (Not doing this step will cause the printer to do a Bluetooth disconnect after a minute or so of connecting in FieldTicket.) Using the Zebra Setup Utilities app on Windows only, connect to the printer and go into Configure Printer Connectivity > Bluetooth and make sure that Bluetooth Controller Mode is set to “Classic and Low Energy”. Then hit Finish. Once the configuration is sent, the printer will re-boot.

Additionally, the Zebra printer should definitely NOT be “paired” with your iOS device. Once the BLE radio is enabled per the instructions above, FieldTicket iOS will connect and stay connected to it.

Android only - pairing with the Zebra printer:

For Android only, the Zebra printer must be “paired” with your device in Settings > Bluetooth before you can print. It's usually a very easy thing to get paired with a printer, and if you need assistance Google is only a step away.

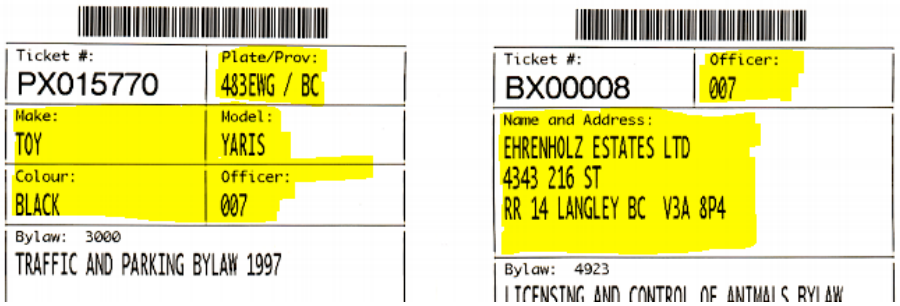
This marks the end of the FieldTicket general setup section.

Considerations for customers who are newly adding LNA ticketing to their existing Vehicle ticketing set-up

1. You will need a separate licence key to add LNA functionality. This can be obtained from Mpowered. See **www.mpowered.biz** for costs. If you have Officers who will be issuing both Vehicle and LNA tickets, the LNA license one-time cost is 25% of the full price, and annual maintenance fees are 20% of that.

2. **(Note: If you are using the NSTP output system (recommended), this step is not needed any more.)** You will need a new layout file on the printer you will be printing LNA tickets on. The layout file must be named FTICK2.FMT, and is usually created by sending your custom version of FTICK2.LBL to the printer. A sample FTICK2.LBL file is included in the download package, which designed for a 3" printer where you are printing ticket comments. Mpowered is here to help: if you wish to have Mpowered build you an LNA LBL file, please contact **support@mpowered.biz**. If you wish to create your own LNA LBL file (based on your existing Vehicle LBL file), please note the following:

The main change in the layout is that placeholders 3, 4, 5, 6, and 7 have changed. (Placeholders in the LBL file are indicated with the string '\\'.) Placeholder 3 was Plate/Prov and is now Officer; 4 was Make and is now Name; 5 was Model and is now Address Line 1; 6 was Colour and is now Address Line 2; 7 was Officer # and is now Address Line 3. You will also need to rearrange line work and get rid of some lines that form boxes. This sample, shows the differences between the two:



You should leave room for 3 address lines, as the system allows for up to 3 lines of address.

3. If you want all officers to use the same LNA type(s), prefix(es) and series, then do the following: On the FIELDWORKSUSERS note dated Jan 1, 2005, add the type, prefix and series for up to 2 LNA ticket types. If you don't add these overrides, then each Officer can make up

their own on the device - which you may not want. You may only have one LNA type you want to issue, but the second one is there if you need it.
If you don't need it, omit the tags beginning with <lna2...

Here is an example with 2 LNA types:
<lna1type>Bylaw</lna1type>
<lna1prefix>BX</lna1prefix>
<lna1series>00000</lna1series>
<lna2type>False Alarm</lna2type>
<lna2prefix>FX</lna2prefix>
<lna2series>00000</lna2series>
Remember, these need to go between the root tags in that note!!

4. Add the Offence Codes for the LNA tickets into Tempest > Ticketing > Configuration > Bylaws. See the Offence Code filtering section for advanced automatic filtering based on your Vehicle and LNA Offence Code scheme – this will save time scrolling to find the desired Offence Code.

5. **Test the configuration on your Test system FIRST!** Install the webservices into a test area on your webserver using the "Testing releases/upgrades" procedure below. Install the Android .apk onto a testing device. Authenticate with all the LNA settings. Make sure the printer is printing LNA tickets correctly.

Optionally storing a PDF version of the ticket

The NSTP output system (described above) automatically stores an HTML version of the ticket as an attachment on the ticket.

To instead store a PDF version of the ticket, you can change a flag in your NSTP tag. Fair warning, be aware that the rendering of the ticket to PDF does take a significantly longer amount of time (+- 6 seconds) to the ticket creation time, and you will be waiting longer for the Review screen to appear after Issuing or creating a Warning.

Consider this example of an <nstp> tag – yours may not look the same, of course – but we are interested in the highlighted 0:

<nstp>~1011000000~575~0~80~0~~~~~~~~</nstp>

Keeping everything else the same, change just the 7th flag from 0 to 1 (be careful to replace, not add). This will get the NSTP system to produce a PDF rather than the default HTML.

So, in the above case, we would go from:
<nstp>~1011000000~575~0~80~0~~~~~~~~</nstp>
to:
<nstp>~1011001000~575~0~80~0~~~~~~~~</nstp>

After testing with the PDF option, if things are going too slow, you can naturally switch back to a 0 at any time; thereby reverting back to storing an HTML attachment.

Upgrading from a previous version

1. If you wish to test this new release, please review the "Testing releases/upgrades" section below. Otherwise, continue with these steps.
2. Copy/Install the 80005 Webapp and webservices to your webservers as per the instructions in the Setup section.
3. Run all the grants in the Setup section.
4. IOS only... if the Webapp is updated, occasionally iOS does not automatically load the update, in which case, you can go to Settings > Info and tap the Reload Webapp link which will force the Webapp to reload.
5. If you created a new Internal webservices directory for this update, don't forget to copy your custom configuration (htmlticketlayout.txt, makesmodels.txt, etc) files (if any) to the new internal webservices directory.

General upgrade notes

All webservices releases and patches are cumulative and include fixes from previous updates. FieldTicket is integrated with Tempest, and may or may not require maintenance as described below.

Major releases

A major release of FieldTicket (FT) will coincide with a major Tempest release, that is, when any of the first 3 digits of a release change, e.g. 72000 to 80000. You *must* (and can only) upgrade FT when you have upgraded the underlying database in order to continue using FT. All major releases are full (i.e. cumulative), i.e. all apps and webservices are released as a full package, and will usually require upgrading all devices and the webserver with the new versions. After every major release, run all the grants in the Setup section.

Patch releases

When any of the last 2 digits of a FieldTicket release change, e.g. 80004 to 80005, this is an Mpowered patch release. Mpowered *does not* synchronize these patches with Tempest. Therefore, when Tempest releases a patch, there will not necessarily be a corresponding patch release by Mpowered. Mpowered releases patches in order to fix bugs and/or introduce new features. All patch releases are full (i.e. cumulative), i.e. all apps and webservices are released as a full package, and will usually require upgrading all devices and the webserver with the new versions. After every patch release, run all the grants in the Setup section.

Testing releases/upgrades

To test releases before going into production, install the new webservices as explained in the Setup section (ensuring that you are using different directory names for the webapp and webservices than production/live). On a test device, run FieldTicket and point its Webapp URL to the **new fully specified webapp directory (not the virtual directory)*** and then inside the webapp point the Base URL to the **new fully specified webservices directory (not the virtual application directory)***, and DSN to the **TEST** database DSN. Once testing is complete and then to upgrade all users, simply edit the virtual directories* in IIS for both the webapp and webservices used for production/live to point to the new assets and all devices will magically update! iOS devices occasionally do not load the new webapp immediately, so there is a link on the Settings > Info screen titled "Reload Webapp". For more information contact Mpowered.

* see the setup section for detailed descriptions of managing updates using virtual directories in IIS.