FieldCall

Phoenix

FC80000

User's Guide
And
Installation/Setup

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What's New for FC80000

Updates to support Tempest 8. Major release.

New permissions. You will need to add these permissions:
grant select on tempest_module_attachments to mpoweredweb;
grant insert on tempest_module_attachments to mpoweredweb;

1. Using FieldCall

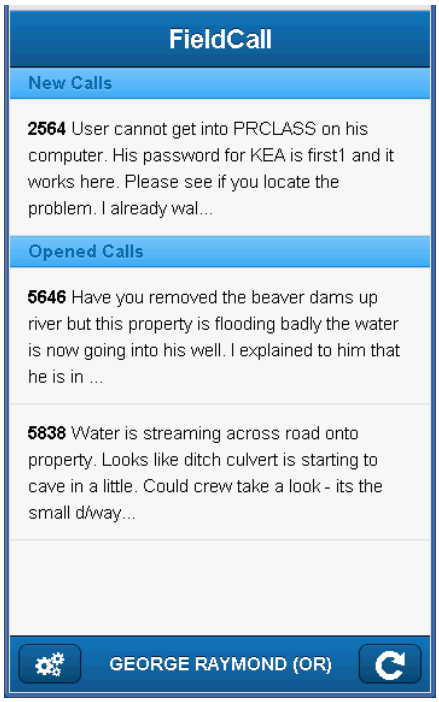
Note: This section assumes that you have successfully installed/upgraded and configured FieldCall. If you have not yet done so, follow the instructions in section 2, Installation/Upgrading.

Before we begin, let's lay a foundation for what FieldCall is designed to do, and what it is not meant to do. FieldCall is designed to replace the function of printing out workorders from Tempest and handwriting notes on them to be re-keyed into Tempest workflow later in the office. FieldCall allows you to do everything that you would do with your printed workorders, only it does it wirelessly – from anywhere you have a data transmission-capable signal on your device. FieldCall is NOT designed to be a complete replacement for Tempest Calls. For example, there is no functionality to create or re-issue Calls.

There are three main screens in FieldCall - the main Calls screen, the Call Details screen, and the Call Workflow screen. That's it! Getting access to your assigned Calls, and adding workflow uses a simple navigation method used by most modern handheld devices, so you should be on your way in no time.

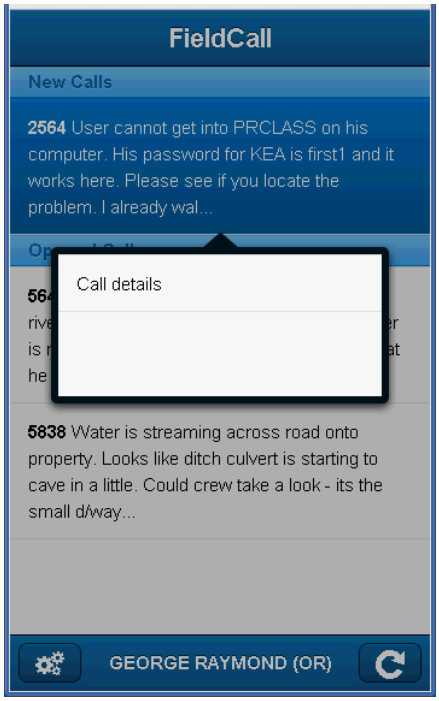
The main Calls screen

Below is the main Calls screen:



The main screen shows you a list of your assigned Calls. There are heading rows for “New Calls” and “Opened Calls” to divide up your Calls. Rows with Calls in them show the Call number and as much of the description as will fit on the screen.

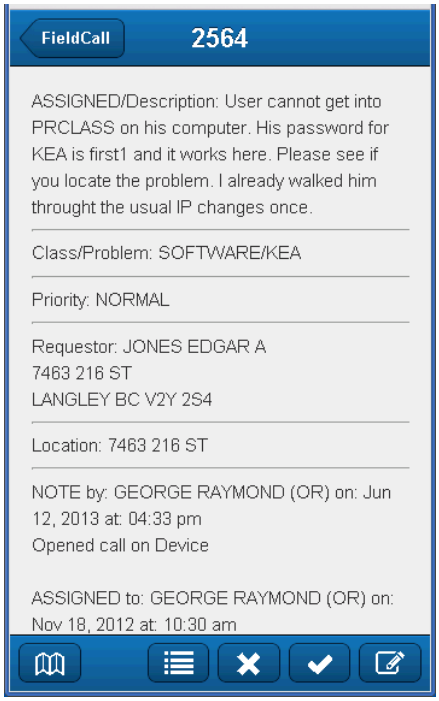
To view a Call's details, you tap on a list item and then tap on "Call details" in the menu:



As a shortcut, you can double-tap the list item which will also bring up the call details.

The Details screen

Selecting the Details… menu item will load a screen showing you all of the pertinent details for the Call:

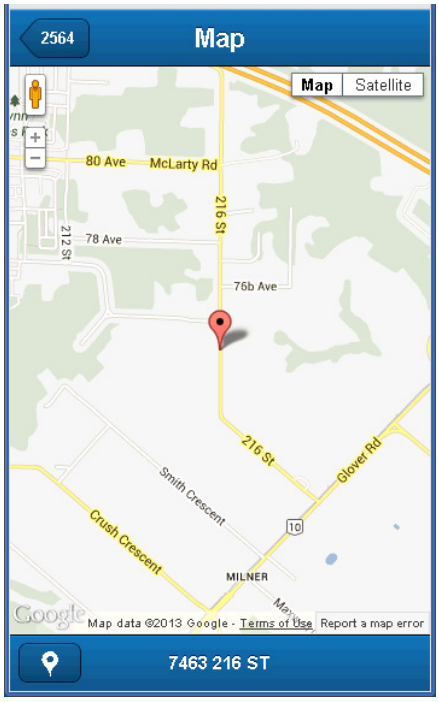


You can scroll the Details screen up and down by swiping with your finger to view all of the information. The Call workflow (up to 25 of the most recent) is shown at the bottom of this screen in reverse chronological order. Viewing calls details on a Call which you have not previously opened on the device will automatically enter a NOTE workflow with the text “Opened call on Device”.

At the bottom of the screen is a toolbar that contains buttons from mapping and adding workflow into Tempest.

The map button

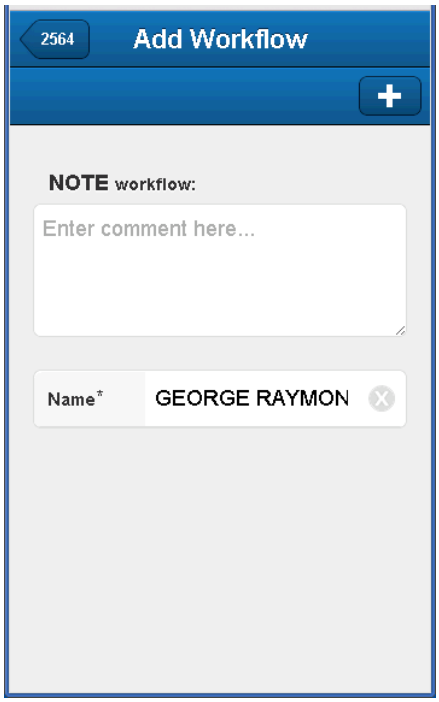
If the map button is displayed, it means that the Call has a street address that can be used to pull up a Google map. Tapping the map button will display a map:



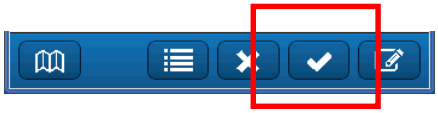
The map can be panned and zoomed using finger gestures. To pin your location relative to the Call location, tap the pin button in the toolbar at the lower left.

The Note button

The Note button allows you to enter NOTE workflow for the call in Tempest:

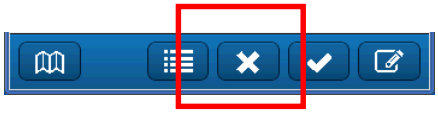


Your name is pre-entered for you in the Name field, so all you need to do is tap in the comment area, and enter your comment. When you are done, tap the plus button to add the note to Tempest. You are returned to the Call details screen, and you can see your new NOTE in the workflow are at the bottom of the screen.



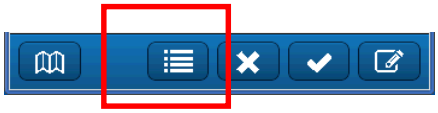
The Completed button

The Completed button allows you to enter COMPLETED workflow for the call in Tempest. It will also set the call status to COMPLETED.



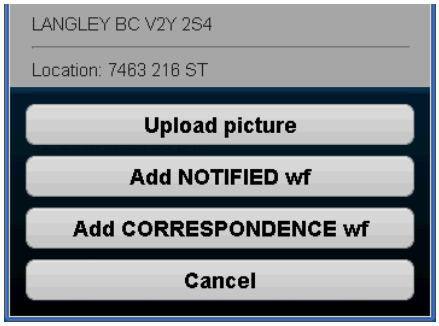
The Cancelled button

The Cancelled button allows you to enter CANCELLED workflow for the call in Tempest. It will also set the call status to CANCELLED.



The Action sheet button

The Action sheet button pops up an action sheet with additional actions that you can do on the Call:



Upload picture

Allows you to take a picture and add it as an attachment in Tempest. A picture description is required. If you are getting errors with this function, you may need to use the web proxy to upload pictures. See technical details in the second part of this manual.

Add NOTIFIED wf

Allows you to enter NOTIFIED workflow for the call in Tempest.

Add CORRESPONDENCE wf

Allows you to enter CORR workflow for the call in Tempest. You will be required to enter the name of the correspondee, and optionally a File No.

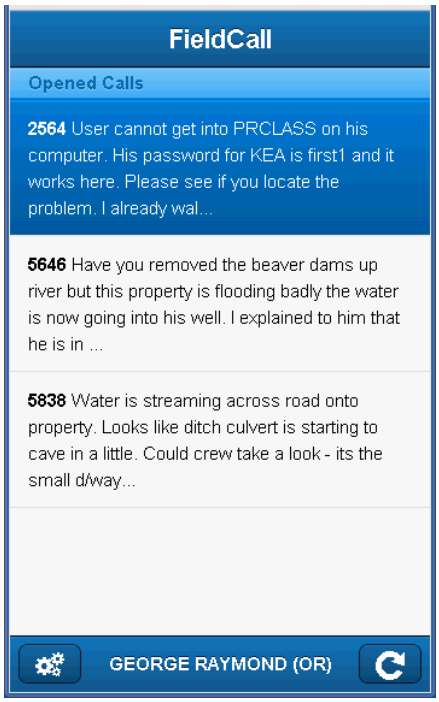
Navigating back

On Android, the escape 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 (labelled “FieldCall”) can be used to navigate back as well.

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

Returning to the main Calls screen

From the Call details screen, navigate back to the Calls list:



Note that the Call we were working on has moved into the Opened Calls section.

Completing Calls that have a repeat frequency

Completing a Call that has a repeat frequency set (e.g. ANNUALLY) will display this message:

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 (phone or tablet):

- Android 4.0 and better.

Web Services:

- ColdFusion: Requires an IIS server, running ColdFusion 8 or better, with a Data Source connection to the Tempest database. For Oracle, the version-appropriate JDBC driver is recommended, and for MS SQL Server use the built-in driver.
- .NET: Requires an IIS server, running .NET Framework v4.0.

Tempest Licences:

- Calls
- Web Customer

Note: Some of the steps below are required once at your site, and some steps are required for each device you want to connect.

Create database user MpoweredWeb

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

Grant database user MpoweredWeb database access permissions

Grant the following table permissions to MpoweredWeb:

```
GRANT SELECT ON CALLS_CALLS TO MPOWEREDWEB;
GRANT UPDATE ON CALLS_CALLS TO MPOWEREDWEB;
GRANT SELECT ON CALLS_PROBLEMS TO MPOWEREDWEB;
GRANT SELECT ON CALLS_PROBLEM_CLASSES TO MPOWEREDWEB;
GRANT INSERT ON CALLS_WORKFLOW TO MPOWEREDWEB;
GRANT SELECT ON CALLS_WORKFLOW TO MPOWEREDWEB;
GRANT SELECT ON LAND_LEGAL TO MPOWEREDWEB;
GRANT SELECT ON LAND_RELATION TO MPOWEREDWEB;
GRANT SELECT ON TEMPESTV_SECURITY_ALL TO MPOWEREDWEB;
GRANT SELECT ON TEMPEST_CLIENT TO MPOWEREDWEB;
GRANT INSERT ON TEMPEST_MODULE_ATTACHMENTS TO
MPOWEREDWEB;
GRANT SELECT ON TEMPEST_MODULE_ATTACHMENTS TO
MPOWEREDWEB;
GRANT SELECT ON TEMPEST_RELEASE_HEADER TO MPOWEREDWEB;
GRANT SELECT ON TEMPEST_RESOURCES TO MPOWEREDWEB;
GRANT SELECT ON TEMPEST_WORKGROUPS TO MPOWEREDWEB;
GRANT SELECT ON WC_CUSTOMERS TO MPOWEREDWEB;
GRANT SELECT ON WC_CUSTOMER_USERS TO MPOWEREDWEB;
```

Download the Install package

Go to www.mpowered.biz and click on Downloads. Here you will find links to various setup exes that match recent versions of Tempest. For example, if our Tempest version is 80000 and the most recent version under FieldCall on the Downloads page is 80000, we would click on the link Version 80000. This will download the exe, for example FieldCall-80000.exe, which you can then run in order to install the package.

The setup wizard

The setup wizard will guide you through installation, and once complete, you will have a new program group: Start > Programs > Mpowered > FieldCall 80000. From this program group, you can access the documentation.

Contents of the install package

On the machine you ran the install, if you browse to Program Files > Mpowered > FieldCall-80000, you will find this structure:

\ColdFusion
\Docs
\Dotnet
\PHP

Decide on which brand of web services you wish to use – ColdFusion or .NET

The release contains two complete and mutually exclusive versions of web services – one for Adobe ColdFusion and one for Microsoft .NET. The .NET version of the web services is experimental at this time – please let us know if you try them as we would like your feedback. The .NET version of the web services can co-exist with the ColdFusion web services on your web server.

Install the ColdFusion web services

On your external (outside the firewall) web server, create a home directory for the Mpowered ColdFusion web services if you don't already have one… something like:

```
C:\inetpub\wwwroot\Mpowered\FieldCall-80000
```

Copy all the files from the \ColdFusion directory from the download here. Now on your external web server, you should have this structure:

```
…\Mpowered\FieldCall-80000\
      getauth.cfm
      getcall.cfm
      getcalls.cfm
      setupload.cfm
      setwf.cfm
```

Test to make sure external browsers can access the web services. For example, if your web server is named esrv.ecity.ca, you should be able to browse to:
http://esrv.ecity.ca/mpowered/fieldcall-80000/getauth.cfm and see a page that looks similar to: ERROR: URL variable v00 not defined … (in getauth.cfm)
This error message is normal. If you cannot browse to this page from an external browser, you have a connectivity issue (firewall, etc) that needs to be resolved by your IT team.

That's all you need to do to install the ColdFusion web services. If you are not installing the .NET web services you can now skip to the "Create the FIELDWORKSUSERS customer in Web Customer" section.

Install the .NET web services – optional (and EXPERIMENTAL as of this release)

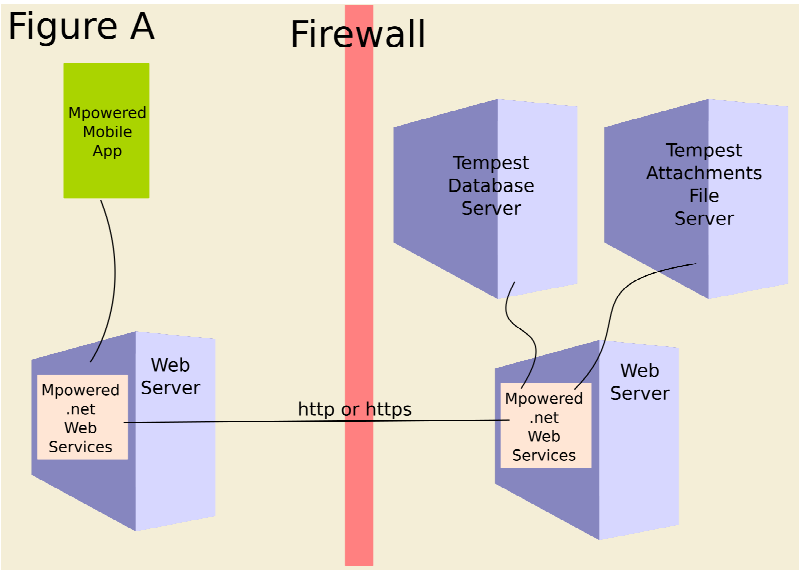
The \Dotnet directory contains the .NET web services required for FieldCall. In this document the "external forwarding/internal direct" method of setting up the .NET web services will be shown. This is because this method is proven to be the most secure – it protects sensitive data from being stored in a config file that is exposed to the Internet.

For comparison, a short section entitled "Installing .NET web services as "external direct"" follows the next section.

Installing .NET web services as "external forwarding/internal direct"

<u>This is the recommended method of installing the .NET web services.</u>

Examine Figure A below:



The Mpowered mobile app - in this case FieldCall - is connected to a web server outside the firewall, making its requests for anything to do with the Tempest database or Tempest attachments. (This is the Base URL you will enter into Preferences on the mobile device later.) These requests are then forwarded to an internal web server, which does all the heavy lifting and then simply hands the result back to the external web server, which then hands the result back to FieldCall.

The one slightly down side to using this method is that you must have an internal web server, and keep it up to date with the same version of Mpowered .NET web services as the external web server.

The huge benefits to this method are **security, security, security**! The external web server knows absolutely nothing about your internal network structure and configuration. No configuration files on the external web server contain any sensitive information, thereby removing any potential for malicious hacking from the outside. It is the internal web server (protected by your firewall and internal network security policies) that knows where your Tempest database and attachments servers are, and has the sensitive information about how to connect to your database servers.

So let's set it up! On your internal (behind the firewall) web server, create a home directory for the Mpowered .NET web services if you don't already have one… something like:

```
C:\inetpub\wwwroot\Mpowered
```

Copy the entire \Dotnet directory from the download here. Now on your internal web server, you should have this structure:

```
…\Mpowered\Dotnet\FieldCall-80000\
      bin\
            FC80000.dll
            Oracle.DataAccess.dll
            Oracle.ManagedDataAccess.dll
            Oracle.ManagedDataAccessDTC.dll
      FieldCall.asmx
      Web.config.internal.txt
      Web.config.external.txt
```

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

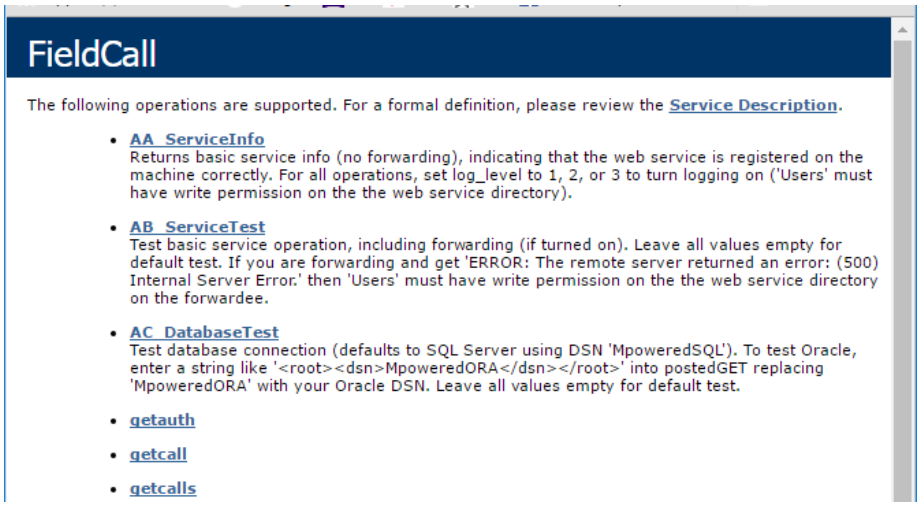
MpoweredSQLTest connection string each pointing to the Production and Test Tempest databases. When you enter the Authentication settings on the mobile device, you choose which DSN (connection string) to use.

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

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, and click OK.

Now on the left tree, browse down to Sites > Default Web Site > Mpowered > Dotnet and right-click on FieldCall-80000. Choose Convert to Application. Keep the Alias as FieldCall-80000, but select Application pool MpoweredApps, and click OK. This should change the icon in the tree to:  .

Now right-click on FieldCall-80000 again, and choose Manage Application > Browse. The default browser should appear with something like the following:



Click on AC_DatabaseTest. If you are a SQL Server site, you can just hit Invoke. If you are an Oracle site, paste the text <root><dsn>MpoweredORA</dsn></root> into the postedGET field and hit Invoke. You should get a page very similar to:

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
▼<dbtest>
  ▼<head>
     <r01>OK</r01>
   </head>
   <success>SUCCESS: Found 9437 rows in the calls_calls table</success>
 </dbtest>
```

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), you probably will not need to set up the external web server as described in the remaining part of this section below - the WAF will manage the external/internal forwarding.

The set up of the external web server is almost identical to the internal web server set up. On your external (outside the firewall) web server, create a home directory for the Mpowered .NET web services… something like:

```
C:\inetpub\wwwroot\Mpowered\Dotnet
```

Copy the \Dotnet\FieldCall-80000 directory from the download here. Browse into the FieldCall-80000 directory and copy the \Dotnet\Web.config.**external**.txt file here as well.

Now on your external web server, you should have this structure:

```
…\Mpowered\Dotnet\FieldCall-80000\
      bin\
            FC80000.dll
            Oracle.DataAccess.dll
            Oracle.ManagedDataAccess.dll
            Oracle.ManagedDataAccessDTC.dll
      FieldCall.asmx
      Web.config.external.txt
      Web.config.internal.txt
```

Delete the Web.config.**internal**.txt file. 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 web services location on the internal web server (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 web server (as seen from outside the firewall).

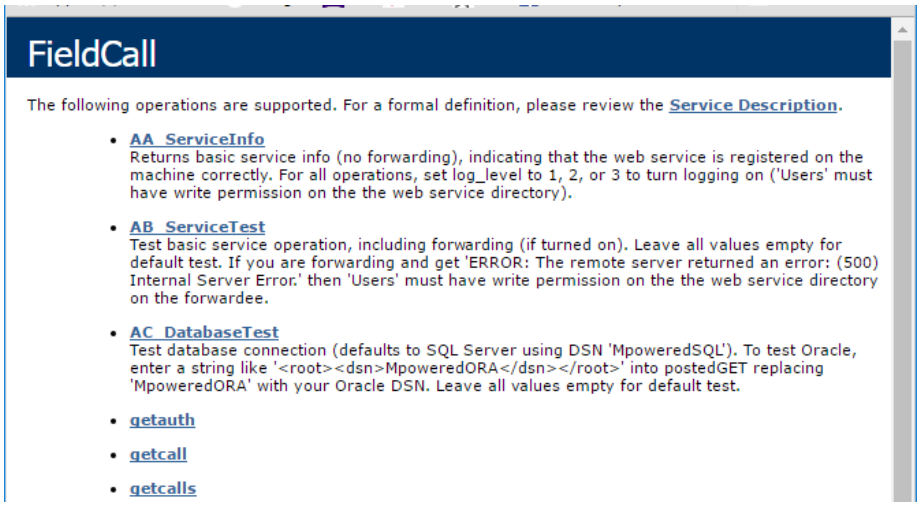
Save and exit. Rename the Web.config.internal.txt file to Web.config – **very important**.

Now we need to fire up IIS Manager on the external 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, and click OK.

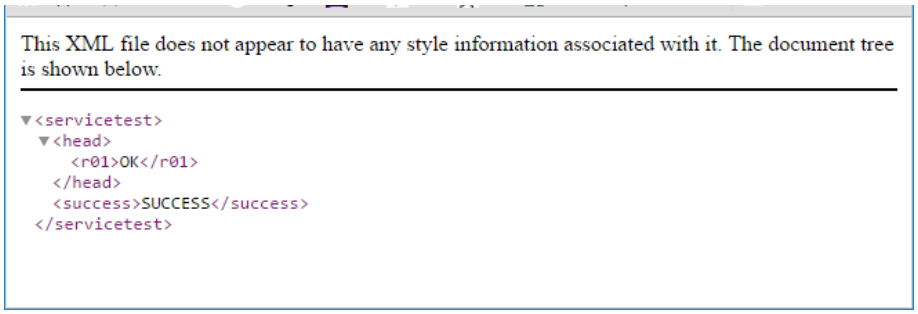
Now on the left tree, browse down to Sites > Default Web Site > Mpowered > Dotnet and right-click on FieldCall-80000. Choose Convert to Application. Keep the Alias as FieldCall-80000, but select

Application pool MpoweredApps, and click OK. This should change the icon in the tree to:  .

Now right-click on FieldCall-80000 again, and choose Manage Application > Browse. The default browser should appear with something like the following:



Click on AB_ServiceTest and hit Invoke. You should get a page very similar to:

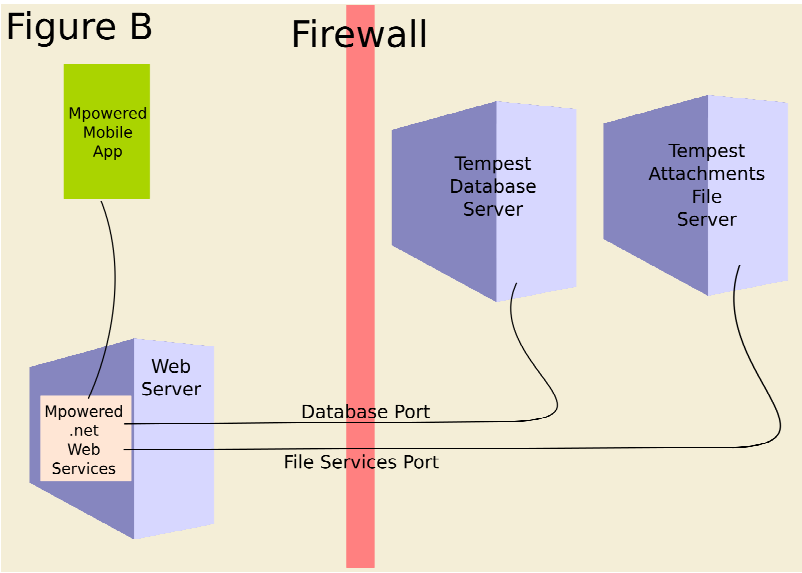


Close the browser, and right-click on FieldCall-80000 (in IIS Manager) again, and choose Manage Application > Browse. This time choose AC_DatabaseTest, and you should get the same result as on the internal web server.

That completes set up of the web services in “external forwarding/internal direct” mode. You can completely skip the next section – Intalling .NET web services as “external direct”.

Installing .NET web services as "external direct"

This is **NOT** the recommended method of installing the .NET web services. Examine Figure B below:

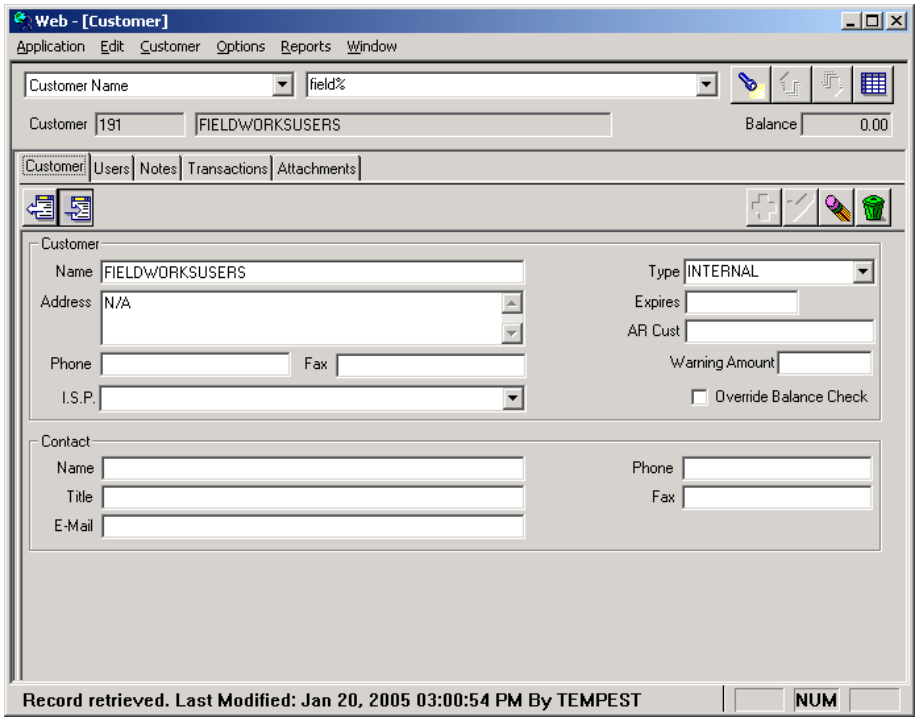


The Mpowered mobile app - in this case FieldCall - is connected to a web server outside the firewall, making its requests for anything to do with the Tempest database or Tempest attachments. (This is the Base URL you will enter into Preferences on the mobile device later.) These requests are processed by the external web server (which must have holes poked into the firewall for both Database and File Services ports), and then hands the result back to FieldCall.

Because this method is extremely security-negative, please contact Mpowered for advice on configuration.

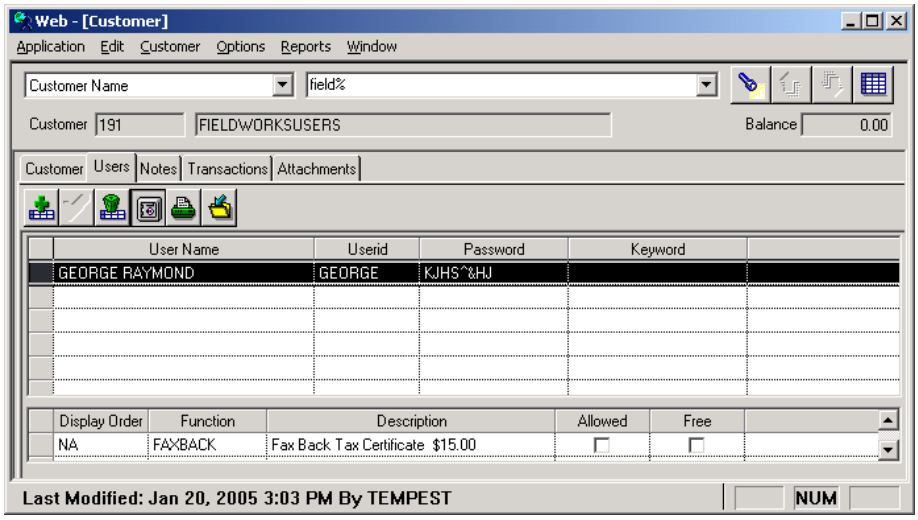
Create the FIELDWORKSUSERS customer in Web Customer

In Tempest create a FIELDWORKSUSERS customer. Make the user an INTERNAL type:



Create the FIELDWORKSUSERS users in Web Customer

Create the Calls user in the FIELDWORKSUSERS customer whose UserId corresponds to the user's actual database UserID:



In this example, we have created user GEORGE RAYMOND. George is a Calls 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 FieldCall.

Security notes:

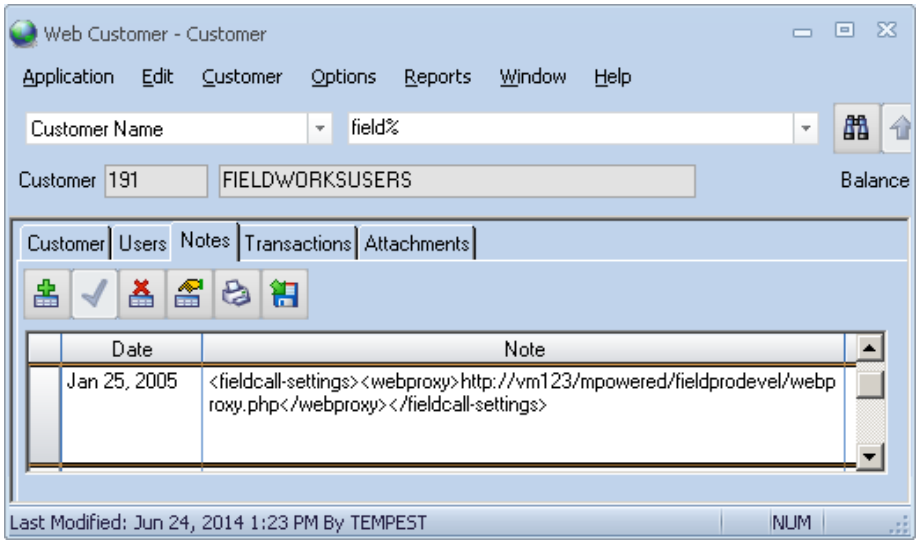
Always use unique passwords of at least 5 characters for your users.

Passwords are never transmitted over the Internet. On the Device, before sending a transaction request, FieldCall generates an MD5 "fingerprint" made up of various pieces of information (including the password), which is then transmitted with the transaction request over the Internet to the Cold Fusion server. On the server, the Cold Fusion page looks up the user in the FIELDWORKSUSERS customer, retrieves the user's password, makes it's own MD5 fingerprint and compares the two fingerprints. If the fingerprints are identical, the transaction is allowed to proceed. This is the same security method used in validating ecommerce transactions by trusted ecommerce payment service providers.

If, for any reason, one of your Devices is lost or misplaced, you can remove the password for the user from the FIELDWORKSUSERS customer and be assured that no transactions will be allowed from that Device.

Control Settings

FieldCall control settings are stored as an XML string in the Notes tab of Web Customer for the FIELDWORKSUSERS, in a note dated Jan 25, 2005:



The XML string entered into the note must be formatted correctly for FieldCall to interpret the settings correctly.

webproxy
The optional <webproxy> setting allows you to set the URL for a proxy for uploading pictures. See the webproxy quick reference guide (included in the download) for more details.

Load the FieldCall app to the device

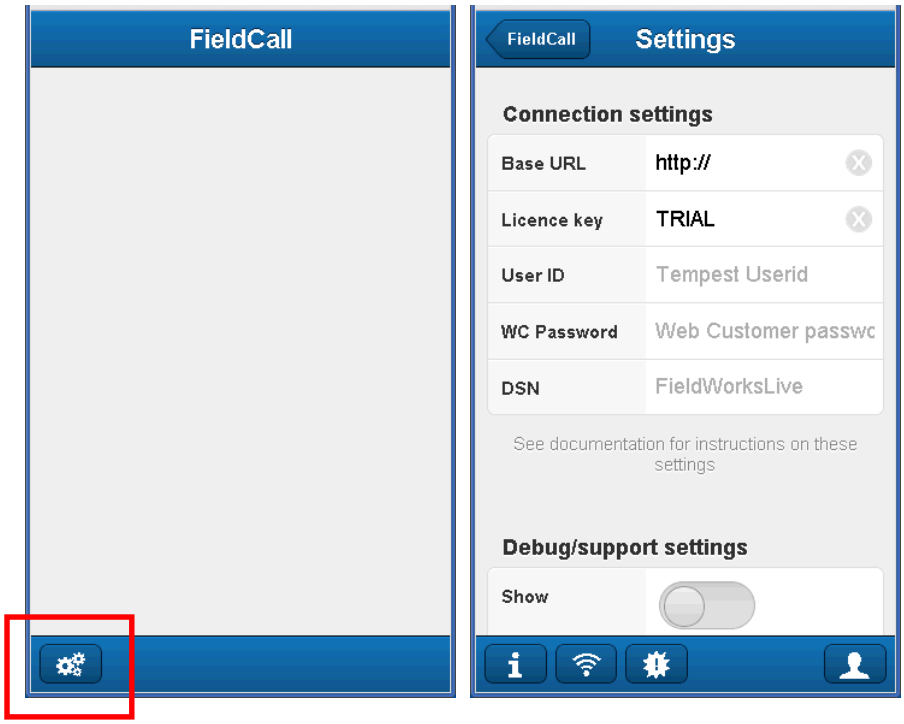
The most recent version is available on the mpowered.biz Downloads page as an installable link. Version timing requirements between Tempest and FieldCall prevent making the app available on the Play store.

Before you begin:
On a phone device go to Settings > Security and make sure the "Unknown sources" option is checked ON.
On a tablet device go to Settings > Security > Applications and make sure the "Unknown sources" option is checked ON.

Using the device's web browser, browse to the mpowered.biz > Downloads page (www.mpowered.biz/Downloads.html) and tap on the Android app installer link under FieldCall. As you go through the install when application permissions request screens appear, you will again tap the Install button. Once FieldCall is installed, you will see the icon on the Apps screen. The app icon can be moved (tap and hold) to any home screen. You can also turn off the "Unknown sources" option now if desired.

FieldCall setup

Tap the FieldCall app icon to run it. Tap the Settings button in the lower left corner:



Connection settings

Connection settings are required as this establishes the location (on the Internet) of the web services allowing FieldCall 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 web services root, e.g.
ColdFusion:
http://esrv.city.ca/mpowered/fieldcall/
.NET:
http://esrv.city.ca/mpowered/dotnet/fieldcall-80000/FieldCall.asmx/

After entering your Base URL, you can test whether FieldCall can reach it by tapping the connection tester button (2nd on bottom left). The messages shown will indicate if your Base URL is reachable.

Licence key: the 5 character licence key supplied to you by Mpowered. If you wish to use FieldCall 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 FieldCall on your device. Licence keys can be purchased from Mpowered.

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

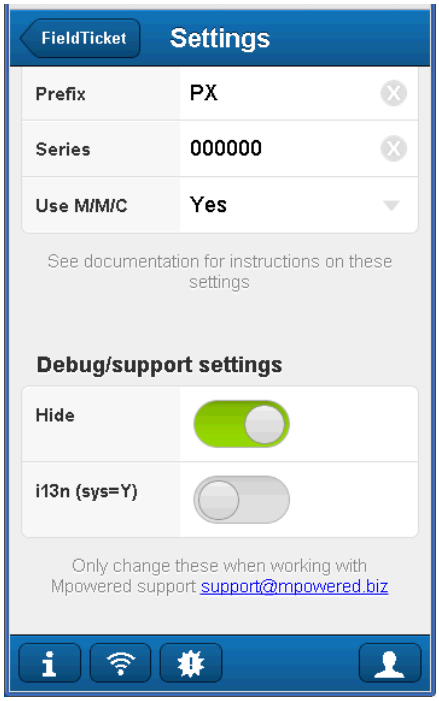
WC Password: the Password as created above in the step “Create the FIELDWORKSUSERS users in Web Customer”.

DSN: the ColdFusion Data Source name (e.g. MpoweredLive).

Once you have entered the connection settings, tap the Authenticate button (bottom right). This will validate the information you entered, and return you to the main screen and load your assigned Calls if all is well. Your user name from Tempest will be displayed in the bottom toolbar on the main screen.

Debug/support settings

These settings should be left as shown below unless directed otherwise by Mpowered support. These settings can be changed without Authenticating.



App information (1st button bottom left)

This screen shows contact and technical information, and may be used by Mpowered support during the course of a support call.

Event log (3rd button bottom left)

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

Upgrading from a previous version

1. Install the new app version from the PlayStore corresponding to the web services you will install. Because the app is version specific, you can have multiple versions of the app on one device, however, it is recommended to remove old versions from production devices after upgrading so as to avoid confusion.
2. Install the 80000 web services to your web server – usually at {yourserver}\inetpub\wwroot\mpowered\fieldcall\80000
   (It is recommended to keep each version of web services in its own dir.)
3. Run the following SQL using a system DBA account:
   grant select on tempestv_security_all to mpoweredweb;

General upgrade notes

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

Major releases

A major release of FieldCall (FC) 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 FC when you have upgraded the underlying database in order to continue using FC. (You will need new licence keys from Mpowered at each major release, which will be automatically shipped to you.) All major releases are full (i.e. cumulative), i.e. all Device and Coldfusion programs/modules are released as a full package, and will usually require upgrading all handhelds and the web server with the new versions of code. After every major release, run the SQL in Step 3 above using a system DBA account.

Patch releases

When any of the last 2 digits of a FieldCall release change, e.g. 80000 to 80001, this is known as a patch release. Mpowered *does not* synchronize these patches with Tempest. In other words, 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 Device and Coldfusion programs/modules are released as a full package, and will usually require upgrading all handhelds and the web server with the new versions of code. After every patch release, run the SQL in Step 3 above using a system DBA account.

Testing releases/upgrades

Because each version is installed into its own subdirectory, you can always download a new version from the Mpowered web site, and install it into its own subdirectory on your webserver, for example:
…\mpowered\fieldcall\80000
Load the corresponding new app (from the Google PlayStore) on a testing device and point its Base URL to the new directory, and DSN to the Test database DSN. Once testing is complete, all production devices can all be migrated to the new app and point the Base URL to the new directory. After successfully re-Authenticating the new devices, remove any old version of FieldCall. For more information contact Mpowered.