

Configuring ITSmobile for SAP EWM RFUI: How-To Guide



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Icons

Icon	Meaning
	Caution
	Example
	Note
	Recommendation
	Syntax
	Tip



1 Introduction

This document describes the settings you must make to set up EWM to work with graphic-based mobile devices. To get an overview of the technology see the *ITSmobile* PDF on SAP Service Marketplace at <http://service.sap.com/scm> -> *Warehousing* -> *Information on Extended Warehouse Management in SCM*.



2 Display SAP EWM Dynpros on an RF Device

2.1 Activating the Standard ITSmobile Service

You can activate the standard ITSmobile service ITSMOBILE01 for testing purposes. If you want to configure the service for your individual business needs, such as with a special CSS file, you must create your own service. The first step is to create an ITSmobile service. The following sections describe the how to set up this service and its parameters.

2.1.1 Creating a New Package

To set up the ITS service you should create your own package, as in the following example:

- Package ZEWM_RF_ITS
- Short Text ITS Implementation
- Component HOME

1. Run transaction SE80.
2. Choose the package, enter the name of your package, and choose *Enter*.
3. If the system asks to create a new package, choose *Yes*.

If you have to register as a developer you can do this on SAP Service Marketplace.

2.1.2 Activating SAP Standard Services

See SAP Note 517484 *Inactive Services in the Internet Communication*.

1. Run transaction SICF, enter the name of the service, and choose *Execute*.
2. Open the folder *default_host*, choose the service and choose *Activate Service*.
3. The system asks if you really want to activate the service. Choose *Activate Including Sub-Services*.
4. The following services must be activated:
 - /default_host/sap/public/bc
 - /default_host/sap/public/bc/its (including all related services)
 - /default_host/sap/public/bc/ur
 - /default_host/sap/public/icman
 - /default_host/sap/bc
 - /default_host/sap/bc/gui
 - /default_host/sap/bc/gui/sap
 - /default_host/sap/bc/gui/sap/its
 - /default_host/sap/bc/gui/sap/its/test
 - /default_host/sap/bc/gui/sap/its/test/mobile (including all related services)

Setting Up the ITSmobile Service

1. Run transaction SICF.

2. Enter a path for your service. You must take the following into account when creating the ICF service:
 - You can enter any path. Use the service name that you have already used or created in transaction SE80 as the service name (the last part of the path).
 - Enter CL_HTTP_EXT_ITS (ITS Handler) as the handler.
 - The GUI connection checkbox must be selected for this service.
 - Make the following entries for the GUI configuration:
 - ~ITSMOBILE 1
 - ~TRANSACTION <your transaction>
 - ~THEME <your theme> (for example, 99)

The ~ITSMOBILE setting defines the service as a mobile service and sets the corresponding ITS defaults. The ~TRANSACTION setting specifies the transaction to run. The ~THEME setting defines the theme for your service.

3. Activate the new service and choose *Test Service* from the context menu. The browser should start with your service.

Example: The internet service you created in SE80 is called MYTEST and you want it to be accessible under the URL /test/services. In this case, you should create the nodes /test and /services and the service MYTEST in transaction SICF. The URL will then be /test/services/MYTEST.

The following sections describe this procedure in detail.

2.1.2.1 Creating an Internet Service

1. Run transaction SICF.
2. Choose *Execute*.
3. Choose *default_host* and in the menu choose *Service/Host -> Wizard: Create Service*.
4. Choose *Continue*, and if you are on the selection screen choose *Service* and *Continue*.
5. Enter the service name and a description and choose *Continue*.
6. Enter handler CL_HTTP_EXT_ITS and choose *Continue*.
7. Choose *Complete*.

You also have to manually create a service in transaction SE80, as follows:

1. Choose *Internet Service*, enter the name of the service, and choose *Enter*.
2. If the system asks you for a transaction name, enter /SCWM/RFUI.

2.1.2.2 Setting Up Service Parameters

Service parameters influence the behavior and appearance of a service and the templates displayed in the service. You set them up as follows:

1. Run transaction SICF, enter the name of the service, and choose *Execute*.
2. Double click on the service.
3. For *GUI Link* choose *Yes*.
4. Choose *GUI Configuration*.

5. Enter the service parameters in the resulting dialog box. The following table gives an overview of the parameters used and their function.

Service Parameters	Description	Example	Mandatory
~ITSMOBILE	Tells the system that this is a mobile service.	1	Yes
~SOURCES	Specifies where the templates should be found. You can specify a sequence of services separated by a semicolon.	Name of the internet services	Yes
~THEME	Which theme the templates are stored in.	99	Yes
~TRANSACTION	Which SAP GUI transaction is executed.	/SCWM/RFUI	Yes
~ITSMOBILEDEVICEINCLUDE	Your own device include file.	A HTML site within the specified service (without the .html suffix).	No
~ITSMOBILECSSINCLUDE	Your own CSS file (without the .css suffix).	A CSS file name (has to be stored as a MIME object in SE80)	No
~ITSMOBILEJSINCLUDE	Your own JavaScript file.	-	No
~ITSMOBILEMSGSOUND	Enables sounds for messages.	-	No
~ITSMOBILECUAINCLUDE	Your own template for the CUA area.	CUA area means the header line (the header line was included to get a spacer for device-specific buttons and symbols)	No
~RESP_CONTENT_TYPE	Application/XHTML and XML set the correct response type for voice enabled services.	-	No
~ITSMOBILEVOICEINCLUDE	Your own voice include file.	-	No
~ITSMOBILEELEMFACTOR	Factor for the appearance of the HTML template on the RF device; defines the width of an icon (number or letter) on the display (see SAP Note 1316326).	-	No
~ITSMOBILEELEMUNITS	Units for the factor.	Pixels	No

Table 1 ITSMobile Service Parameters

2.1.2.3 Activating and Testing Internet Service

1. Run transaction `SICF`, enter the service name and choose *Execute*.
2. Mark the service and choose *Activate Service* from the context menu.

3. After the activation, choose *Test Service* to test the service in the browser of your PC.

2.1.2.4 Changing Logon Settings

1. Run transaction `SICF`, enter the service name and choose *Execute*.
2. Double-click the service name.
3. On the next screen choose the *Logon Data* tab and for the procedure choose *Alternative Logon Procedure*.
4. Under *Logon Procedure List* delete all entries except *1 - Fields Authentication*.

2.1.2.5 Changing the Error Page

1. Choose the *Error Pages* tab and go to the *Logon Errors* sub tab.
2. Select the *System Logon* radio button.
3. Choose the *Configuration* button.
4. Make the settings as shown in the following screen shot and choose *Enter*.

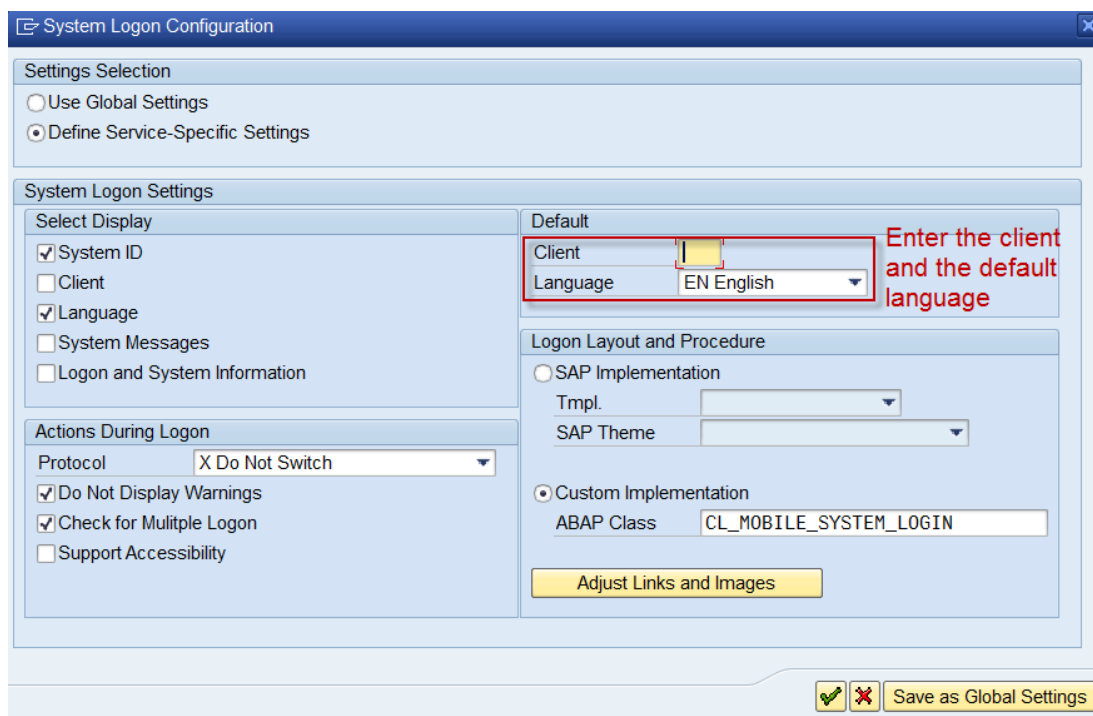


Figure 1 Changing Error Page Settings

5. Go to the *Application Errors* sub tab and select the *Explicit Response Time* checkbox.
6. Go to the *Logoff Page* sub tab and select the *Redirect URL* radio button.
7. Enter the URL of the internet service.
8. Enter the URL of the productive system. Note that the settings will be transported.
9. Go to the *Not Accessible* sub tab and select the *Explicit Response Time* radio button.
10. Save your settings.

2.1.3 Creating Different Services for Different Devices

If different hardware devices are being used, you must create different services, because the devices will require different style sheets (due to differing screen resolutions, browsers, and so on) and different activation of function keys.

2.2 Creating HTML Templates

2.2.1 Creating Templates

1. Run transaction `SE80` and choose the function group for which you want to create templates. Hint: If you want to create templates only for some specific RF transactions, run transaction `/SCWM/RFUI`, navigate to the logical transaction, and choose `Ctrl+Shift+F1`. Here you can see the necessary technical information (function group and screen number).
2. Open the folder screens and choose the screens for which you want to create templates.
3. In the context menu choose *Other Functions -> Create Template*.
4. Enter the names of the internet service and theme and choose *Generating Style MOBILE4*.
5. Enter the required transports.

In the standard setup, all the general screens used in RF are in the following function groups:

- `/SCWM/RF_TMPL`
- `/SCWM/RF_SSCR`
- `/SCWM/RF_GENERAL`
- `/SCWM/RSRC_DYNPRO`

The application-related screens are in the following function groups:

- `/SCWM/RF_ADHOC`
- `/SCWM/RF_ADHOC_CREATE`
- `/SCWM/RF_GENERAL`
- `/SCWM/RF_INQUIRY`
- `/SCWM/RF_INVENTORY`
- `/SCWM/RF_LOADING`
- `/SCWM/RF_PACKING`
- `/SCWM/RF_PICKING`
- `/SCWM/RF_PUTAWAY`
- `/SCWM/RF_PUTAWAY_EN`
- `/SCWM/RF_QM`
- `/SCWM/RF_REPL`
- `/SCWM/RF_SPREADING`



2.2.2 Publishing Templates

1. Go to *Internet Service* in SE80.
2. Mark the internet service and in the context menu choose *Publish -> Complete Service*.

2.2.3 Clearing the Cache

1. Run transaction SITSPMON.
2. Go to the tab *Template & MIME Cache*.
3. In the screen area *Invalidate Template Caches*, choose *System-Wide*.
4. In the screen area *Invalidate MIME Cache*, choose *System-Wide*.

2.3 Changing the Appearance of an RF Screen on the Device

You can influence the appearance of the HTML screens on the RF devices by changing the following:

- HTML template
- HTML converter (change the ABAP coding)
- CSS (Cascading Style Sheet)
- Dynpros

If you want to change the appearance of the HTML screens, we recommend that you change the CSS. It is easy to change and influences the appearance of all HTML sites within a service. We do not recommend that you change a single template because after each recreation of the template, the system overwrites the changes. This document describes how you can change the CSS and the dynpros.

2.3.1 Changing the CSS

By changing the CSS file you can change the following attributes:

- Colors
- Font sizes
- Paddings
- Borders
- Text align

In transaction SE80 you can modify the CSS directly. The CSS file has to be stored in the service as a MIME object. See Appendix A for a sample CSS file.

To change the size of fields, the alignment of objects, or the general aspect ratio, you must change the dynpros.

2.3.2 Changing the Dynpros

If you want to change the dynpros you should copy them into new function groups similar to the existing ones, for example, ZRF_PACKING. This might be necessary if the aspect ratio of the device differs from the standard aspect ratio of the dynpros (8 lines x 40 columns).

Use the following data to change the aspect ratio:

Display (pixels)	Device	SAP Template Dynpro Dimension (lines x columns)
------------------	--------	---

240 x 320	Symbol MC9000	12 x 19
320 x 320	Symbol MC3000	12 x 25
800 x 600	Symbol MC9090G	8 x 40 (handled with standard dimension and adapted CSS)

Table 2 Screen Resolution/Aspect Ratio

You can use the screen painter functionality in SE80 to make further changes as follows:

1. Check if the screen is already included in the device-specific function group. If not, copy the screen to the relevant function group in Customizing.
2. Run transaction SE80, choose the screen and choose the *Screen Painter* button.
3. Change the screen.
4. Save and activate the screen.
5. Recreate the templates for all changed screens (see *Creating HTML Templates*).

The following sections describe in detail how to change screens.

2.3.2.1 RF Dynpro Basics

The dynpro which is shown when you run transaction /SCWM/RFUI consists of two screens; the template screen and the service sub-screen.

The template is the frame where the buttons and error messages are displayed. There is one template for each display profile.

The service sub-screen is contained within the template screen. This is where the different application screens (such as WT confirmation or HU maintenance) are displayed.

2.3.2.2 Copying the Standard RF Screens

1. In Customizing for Extended Warehouse Management, go to *Mobile Data Entry -> RF Framework -> RF Screen Manager*.
2. Use one of the following methods to copy the screens:
 - Copy all screens from standard to a new display profile (but all screens will be copied into only one function group).
 - Copy specific screens into a specific function group.

2.3.2.2.1 Copying All Screens

1. Go to the *Display Profile* tab, enter the profile you want to copy (the standard profile) and choose *Copy*.
2. The display profile is used to assign different screens to different devices. Run transaction /SCWM/PRDVC to maintain a presentation device and assign a display profile to the presentation device (the display profile has to be specified for each resource in transaction /SCWM/RSRC).
3. Enter all necessary data, such as display profile and attributes. If you want to copy or convert the service sub-screens, select the relevant radio button. If you select *Convert Screens*, the system automatically converts the screens so that they will fit in the defined template size.

Note that all service sub-screens will be copied or converted to one function group. You must check the result of the conversion. Particularly if you change the aspect ratio completely and convert the

service sub-screens, the result may not be sufficient. In this case you will have to change it manually. The original numbering of the screens is not preserved; it is changed to an ascending numbering. Note that the menu item length must be smaller than the screen width.

4. Choose *Enter* and enter the relevant transports, packages, and so on. The system copies the screens and changes the Customizing. You can then change the screens with the Screen Painter.

2.3.2.2.2 Copying Specific Screens

1. Before you can copy specific screens you have to create a new display profile. The display profile is used to assign different screens to different devices. Run transaction `/SCWM/PRDVC` to maintain a presentation device and assign a display profile to the presentation device (the display profile has to be specified for each resource in transaction `/SCWM/RSRC`).
2. In Customizing for *Extended Warehouse Management* go to *Mobile Data Entry -> RF Framework -> RF Screen Manager*. Go to the *Display Profile* tab, enter your display profile and choose *Create*. Specify all attributes and deselect the checkbox *Create Sub-Screens*. Choose *Enter*.
3. Go to the *Screens* tab, enter your display profile and choose *Search*. The Customizing table shows which screen is displayed for which application, display profile, logical transaction, and so on. This means that for the same logical transaction but different display profiles, different screens are shown. The fields *Line Defic.* and *Column Defic.* show a number if the screen is too large for the template specified for the display profile.
4. Mark the entry for your display profile and switch to change mode.
5. Mark the screens you want to copy or convert and choose *Convert* or *Copy* as appropriate.
6. We recommend that you copy the standard screens that are included in one function group to a new function group. For example, copy all screens that are included in the function group `/SCWM/SAPLRF_GENERAL_EN` to a new function group `ZRF_GENERAL_EN`. We also recommend that you keep the original numbering.
Note that if you use a customer name space you must use Customizing to manually input `SAPL` into the function group name. For example, for the function group `/XYZ/RF_PICKING` you have to enter `/XYZ/SAPLRF_PICKING` in Customizing.

2.3.2.3 Screen Painter

You can access the Screen Painter in Customizing as follows:

1. In Customizing for *Extended Warehouse Management* go to *Mobile Data Entry -> RF Framework -> RF Screen Manager*.
2. Go to the *Screens* tab, enter your display profile, and choose *Search*.
3. Change to edit mode, mark the screen you want to change and choose the *Edit Screen* button.

Alternatively you can access the Screen Painter using SE80 as follows:

1. Choose *Function Group*, enter the name of the function group, and choose *Display*.
2. Mark a screen in the folder screens and choose *Layout*. This starts the screen painter.

2.3.3 Logon Class

If you want to change the appearance of the logon screen, you have to change the mobile logon class `CL_MOBILE_SYSTEM_LOGIN`. You cannot change it by changing the CSS.

2.4 Integrating Hardware Function Keys

For some devices and operating systems, you must include a JavaScript file in the service to activate the function key features. You can find an example of such a file in the standard service `ITSMOBILE01`, file `DEVINCLUDE_SYMBOL3090`.

```
<!-- Only for Windows Mobile OS (operating system). When using Windows CE,
these meta tags are not required, because javascript in
ITSMOBILE/99/SCRIPTS/ALL/MOBILE.JS can be interpreted by the Microsoft
browser (higher JavaScript version). -->
<!-- key mapping F1 - F10 using ITSmobile javascript functions -->
<!-- With this mapping the key buttons 0 to 9 will act as function keys -->
<!-- F1 to F10. Use blue FUNC button to input numbers into edit fields -->
<META HTTP-Equiv="OnKeydispatch0x3b" content="JavaScript:setFKey('1');">
<META HTTP-Equiv="OnKeydispatch0x3c" content="JavaScript:setFKey('2');">

<META HTTP-Equiv="OnKeydispatch0x3d" content="JavaScript:setFKey('3');">
```

Note that this is only necessary for the Windows Mobile operating system. When using Windows CE, meta tags are not required, because JavaScript in `ITSMOBILE/99/SCRIPTS/ALL/MOBILE.JS` can be parsed by the Microsoft browser.

For sample JavaScript files, see Appendix B

2.5 Activating Sounds

To activate sounds you must include sound files in your service. You can copy them from the standard service `ITSMOBILE` into your internet service or upload .wav files as MIME objects. Mark the sound and choose *Copy* in the context menu. Enter your service and all related data. Choose the same folder structure as is used in `ITSMOBILE`.

In transaction `/SCWM/PRDVC` you can specify which sound is played in which case for each presentation device.

For more information, see the following SAP Notes:

- SAP Note 1428050 *ITSmobile: new feature: ~CURRDYNPRO.MESSAGESOUND*
- SAP Note 1260592 *ITSmobile: Added support for NOTIFY_BELL_SIGNAL*



3 Examples for ITSmobile Implementation

01 Logon to Packing Station
02 Repack HU Automatically
03 Repack HU Item Automatically
04 HU Maintenance
05 Loading by Route

Menu

F1 Logoff

Figure 2 ITSmobile – Main Menu

Src HU 3100000024 0

Pr/SI/HU E22000100000127

CROSS MEMBER

1 ST

CnsId. Grp 003000000

DHU 3100000021

Dest. Bin GI-INB

F1 PrdDet F2 HUOv F3 ItLis F4 HUcrt >

Figure 3 ITSmobile – Repack HU Item

SBin YY20-01-01-04

SrceHU HUWh

Prod. CHR_PEWM_010

pEWM Product 10

1 AQty ST

DestHU

F1 Detail F2 Queri F3 HUWd F4 WTLst >

Figure 4 ITSmobile – Source Bin Verification

4 Important Transactions

- Package `SITS_ABAP`
- Maintain Templates: `SE80`
- Publicize Service: `SICF`
- ITS Internal Monitor: `SITSPMON` (clear ITS cache)
- ICM Monitor: `SMICM` (clear ICM cache)
- Import Field To System: Report `SIAC_UPLOAD`



5 Tools

5.1 Document Screen Design

You can use the spreadsheet *RFScreenDesign* on SAP Service Marketplace to document the screen design for a new RF transactions. You can find it at <http://service.sap.com/scm> -> *Warehousing* -> *Information on Extended Warehouse Management in SCM*.

5.2 Function Keys and JavaScript Codes

The following is an overview of the JavaScript codes.

Taste	Key Code	Taste	Key Code	Taste	Key Code
backspace	8	tab	9	enter	13
shift	16	ctrl	17	alt	18
pause/break	19	caps lock	20	escape	27
page up	33	page down	34	end	35
home	36	left arrow	37	up arrow	38
right arrow	39	down arrow	40	insert	45
delete	46	0	48	1	49
2	50	3	51	4	52
5	53	6	54	7	55
8	56	9	57	a	65
b	66	c	67	d	68
e	69	f	70	g	71
h	72	i	73	j	74
k	75	l	76	m	77
n	78	o	79	p	80
q	81	r	82	s	83
t	84	u	85	v	86



w	87	x	88	y	89
z	90	left window key	91	right window key	92
select key	93	numpad 0	96	numpad 1	97
numpad 2	98	numpad 3	99	numpad 4	100
numpad 5	101	numpad 6	102	numpad 7	103
numpad 8	104	numpad 9	105	multiply	106
add	107	subtract	109	decimal point	110
divide	111	f1	112	f2	113
f3	114	f4	115	f5	116
f6	117	f7	118	f8	119
f9	120	f10	121	f11	122
f12	123	num lock	144	scroll lock	145
semi-colon	186	equal sign	187	comma	188
dash	189	period	190	forward slash	191
grave accent	192	open bracket	219	back slash	220
close bracket	221	single quote	222		

6 More Information

6.1 SAP Community Network

<http://wiki.sdn.sap.com/wiki/display/HOME/ITSmobile>

6.2 SAP Notes

1031074 ITSmobile 1.1: Supplements and improvements
1030685 Control for exiting transaction /SCWM/RFUI
1055009 Control for exiting transaction /SCWM/RFUI 2
1048461 ITSmobile, system login for mobile services
1039335 Incomplete logoff from an ITS WebGUI application
1058529 Incomplete logoff for ITS applications
1048461 ITSmobile, system login for mobile services
1070064 Comparison of Web SAP Console with SAP ITSmobile

6.3 RF Cookbook

See the *RF_Cookbook* PDF on SAP Service Marketplace at <http://service.sap.com/scm> -> *Warehousing -> Information on Extended Warehouse Management in SCM.*

6.4 Internet

<http://de.selfhtml.org/>

7 FAQs

Problems that typically occur in relation to ITS templates include the following:

Keys not working

Check whether all standard services are activated and check the activation of the necessary services in SE80.

Publishing

Changes in templates are not generated, or are not visible. When you make changes to a template, always remember to publish it to the internal site. You should also check whether the integrated ITS is selected in SE80 under *Utilities -> Settings -> Transaction Server -> Publish*.

Instance/application server not the same

If your template changes are not generated, even though you have published the changes, check whether the template changes and the service test were performed on the same application server. Synchronizing the application servers may require more time than expected.

BHTML syntax errors

If your changed templates contain BHTML syntax errors, they will not become apparent until the template/service is executed. Syntax errors lead to an ABAP short dump. You can obtain more information about the error in transaction ST22. If possible, the ABAP short dump lists the template number, line number, and column that were identified as containing errors by the BHTML interpreter. You should check the modified lines of the specified error line in particular.

Resetting the Affected Caches

Remember that the following caches are involved in HTML-based services

- **ITS Template Cache**

This cache contains a runtime version of the template that is required to optimize performance. If necessary, you can reset the cache manually using transaction SITSPMON (tab *Template and MIME Cache*).

- **ICMAN Cache**

This cache optimizes access to static content, for example, JavaScript and .gif files. You can reset the cache in transaction SMICM by choosing *Goto -> HTTP Plugin -> HTTP Server Cache*.

- **Browser Cache**

If you make changes in JavaScript files, for example, you must reset the browser cache to ensure that the modified JavaScript files are transferred again to the browser.



8 Appendix A – Sample CSS

```
/* GENERAL PAGE */
/*-----*/
```

```
/*
```

All values used in this stylesheet were optimized for the device ML 7090 that has a screen resolution of 240(width) x 320 (height) pixel and runs Symbol Browser 2.02 (build 007)

```
-----
```

Regarding UI element widths:

```
-----
```

To make the best use of the available screen width of this device (240px), two service parameters were set for this service:

~ITSMOBILEELEMFACTOR=8 and ~ITSMOBILEELEMUNITS=px.

This will cause the assignment of appropriate width values to all UI elements on screen to prevent an unexpected wrapping of UI elements over more than one line.

```
-----
```

Height values

```
-----
```

Important settings regarding the height of screen elements:

The dynpro this service is based on consists of 13 lines of content of the same height. All lines together should fill the screen heightwise.

11 of the 13 lines are reserved for the subscreen rendered in the center of the screen. 2 lines are reserved for button rows (at the bottom of the screen).

Additionally, the CUA bar at the top of the screen needs some space (15px).

$320 / 13 \approx 66\text{px}$, but we use 65px to have a little bit more space for layout purposes.

The height of a line is defined in ".MobileRow" below and in elements like buttons or input fields.

To fill the whole screen vertically completely we work with padding values (padding-top and padding-bottom) in ".MobileSubScreen". This allows us to:



- a) avoid gaps at the lower end of the screen
- b) avoid unnecessary vertical scrollbars
- c) have a balanced padding between the top row, the subscreen and the bottom row.

```
*/

/* --- MOBILE BODY attributes of the header SAP Logo-----*/
.MobileBody
{
  background-color:#F5F9FC;
  padding: 0px;
  margin: 0px;
  border-width: 0px;
  font-size: 10px;
  font-family:helvetica,arial;
  font-weight:bold;
  /*next line hides vertical scrollbar in msie if inactive*/
  overflow: auto;
}

  td {
    vertical-align: top;
  }

/* --- MOBILE SCREEN -----*/
.MobileScreen
{
  background-color:#F5F9FC;
  padding:0px;
  margin:0px
  font-size:10px;
  border:0px;
  overflow: hidden;
}

/*-----*/
/* Main Areas of Mobile Screen      */
```



```
/*-----*/

/* --- CUA AREA -----*/
/* attributes of the top status bar*/

.MobileCuaArea
{
  height:15px;
  width:100%;
  background-color:#D9E5F2;
  padding:0px;
  margin:0px;
  border-bottom-style:solid;
  border-bottom-width:2px;
  border-bottom-color:#B3C3CF;
}

/* --- USER AREA --> attributes of the fields and buttons on the subscreens-----
-----*/
.MobileUserArea
{
  padding: 0px;
  padding-left: 1px;
  margin: 0px;
  overflow-x:auto;
  overflow-y:auto;
}

/* -----*/
/* CUA AREA ELEMENTS */
/*-----*/

/* --- MESSAGE -----*/
.MobileMessageScreen
{
  background-color:#F5F9FC;
  padding:0px;
  margin:0px;
  border-style:solid;
  border-color:#C40026;
  border-top-width:0px;
```



```
border-left-width:0px;
border-right-width:0px;
border-bottom-width:2px;
}

.MobileMessageLine
{
}

/* --- MESSAGE -----*/
.MobileMessageLogo
{
    vertical-align:middle;
    padding-left:3px;
    padding-right:3px;
}

/* --- TITLE -----*/
.MobileWindowTitle
{
    font-weight:bold;
    font-style:italic;
    font-size:10pt;
    padding-left:7px;
}

/* --- LOGO im Header -----*/

.MobileHeaderLogo
{
    background-color:#D9E5F2;
    vertical-align:middle;
    height:20px;
    border:0px;
    margin-left:5px;
    margin-right:2px;
}

/* --- Include Frame -----*/
```



```
.MobileIncludeFrame
{
}

/* Main Size Arrangements */
/* -----*/

/* --- Basic Row -----*/
.MobileRow
{
    padding: 0px;
    margin: 0px;
    height: 21px;
}

/*-----*/

/* -----*/
/* DYNPRO ELEMENTE */
/*-----*/

/* --- SUBSCREENS -----*/
.MobileSubScreen
{
    background-color:#F5F9FC;
    vertical-align: top;
    /* change padding-top value to alter the gap between top button row and
    subscreen content*/
    /* change padding-bottom value to alter the gap between top button row and
    subscreen content*/
    padding-top: 2px;
    padding-bottom: 0px;
    padding-right: 0px;
    padding-left: 0px;
    margin-left: 2px;
    margin-right: 0px;
    margin-top: 0px;
    margin-bottom: 0px;
    border: 0px;
}
```



```
    height:          252px;
}

/* --- STEPLOOPS -----*/
/*steploops are not used*/
.MobileStepLoop
{
    width:100%;
    padding: 2px;
    margin:0px;
    border:0px;
}

/* --- FRAME -----*/
.MobileFrame
{
    background-color: #D9E5F2;
    padding:0px;
    margin:0px;
}

.MobileFrameHeader
{
    background-color:#A3C1E4;
    font-weight:bold;
    padding:0px;
    margin:0px;
    border:0px;
}

.MobileFrameHidden
{
    width:100%;
}

/* ***** */
/* --- BUTTON ----- */
/* ***** */
/* general settings that are shared by
   enabled and disabled button
*/
```

```
.MobileButton,
.MobileButtonDisabled
{
padding: 0px;
margin: 0px;
vertical-align: top;
text-align: left;
alignment: left;
}

/*height of buttons outside of the subscreen*/
.MobileButton,
.MobileButtonDisabled
{
height: 20px;
/* font-size: 12px;
line-height: 15px;*/
}

/*height of buttons inside the subscreen*/
.MobileSubScreen .MobileButton,
.MobileSubScreen .MobileButtonDisabled{
height: 22px;
padding-left: 1px;
/* font-size: 15px;
line-height: 12px;
font-family: condensed, sans-serif;*/
}

/* --- ACTIVE BUTTON -----*/

.MobileButton
{
background-color:#FFF09E;
}

/* --- DISABLED BUTTON -----*/

.MobileButtonDisabled
```



```

{
  background-color:#FFF09E;
}

/* ***** */
/* --- EDIT FIELDS -----*/
/* ***** */

/* the following block of general settings
   is valid for all edit field types,
   individual settings for specific edit field
   types can be made in the blocks below
*/

.MobileEdit,
.MobileEditDisabled,
.MobileEditRequired,
.MobileEditRequiredDisabled,
.MobileEditRequiredHighlighted,
.MobileEditRequiredHighlightedDisabled,
.MobileEditHighlighted,
.MobileEditHighlightedDisabled
{
  height: 18px;
  font-size: 11px;
  font-weight:bold;
  vertical-align: top;
  margin: 0px;
  padding: 0px;
}

.MobileSubScreen .MobileEdit,
.MobileSubScreen .MobileEditDisabled,
.MobileSubScreen .MobileEditRequired,
.MobileSubScreen .MobileEditRequiredDisabled,
.MobileSubScreen .MobileEditRequiredHighlighted,
.MobileSubScreen .MobileEditRequiredHighlightedDisabled,
.MobileSubScreen .MobileEditHighlighted,
.MobileSubScreen .MobileEditHighlightedDisabled
{

```



```
padding-left: 1px;
height: 18px;
font-size: 14px;
line-height: 15px;
}

.MobileEdit
{
    color: #000000;
    background-color:#FFF09E;
}

.MobileEditDisabled
{
    background-color:#FFFFFF;
}

/* required */
.MobileEditRequired
{
    border-color:blue;
}

/* required disabled*/
.MobileEditRequiredDisabled
{
    border-color:blue;
}

/* required + highlighted */
.MobileEditRequiredHighlighted
{
    border-color:blue;
    color:blue;
}

.MobileEditRequiredHighlightedDisabled
{
    border-color:blue;
    color:blue;
}
```

```
}

/* highlighted */
.MobileEditHighlighted
{
  color:blue;
}

.MobileEditHighlightedDisabled
{
  color:blue;
}

/* ***** */
/* --- LABEL FIELD -----*/
/* ***** */
/* the following block of general settings
   is valid for all label variants,
   individual settings for specific edit field
   types can be made in the blocks below
*/

.MobileLabel,
.MobileLabelHighlighted
{
  white-space:nowrap;
  font-family:helvetica,arial;
  font-size: 13px;
  font-weight:bold;
  margin-right: 0px;
  margin-left: 0px;
  padding: 0px;
}

.MobileLabel
{
}

.MobileLabelHighlighted
```



```
{
  color:blue;
}

/* ***** */
/* --- RADIOBUTTON -----*/
/* ***** */

.MobileRadioButton
{
}

.MobileRadioLabel
{
  white-space:nowrap;
  font-size: 8pt;
  font-weight:bold;
}

/* ***** */
/* --- CHECKBOX -----*/
/* ***** */

.MobileCheck
{
  font-size: 8pt;
  font-weight:bold;
}

.MobileCheckLabel
{
  white-space:nowrap;
  font-size: 8pt;
  font-weight:bold;
}
```




9 Appendix B – Sample JavaScript

```

<!-- ----- -->
<!-- SYMBOL POCKET BROWSER MC3090 -> operating system Windows CE
<!-- ----- -->

<meta http-equiv="cache-control" content="no-cache">
<meta http-equiv="pragma" content="no-cache">

<!-- setting best fitting text size for ITSmobile -->
<META HTTP-Equiv="TextSize" Content="Medium">

<!-- Only for Windows Mobile OS (operating system). When using Windows CE,
      these meta tags are not required, because javascript in
      ITSMOBILE/99/SCRIPTS/ALL/MOBILE.JS can be interpreted by the Microsoft
      browser (higher JavaScript version). -->

<!-- key mapping F1 - F10 using ITSmobile javascript functions -->
<!-- With this mapping the key buttons 0 to 9 will act as function keys -->
<!-- F1 to F10. Use blue FUNC button to input numbers into edit fields -->
<!-- battery indicator, color blue -->

<META HTTP-Equiv="battery" Content="show">
<META HTTP-Equiv="battery" Content="right_growfromleft">
<META HTTP-Equiv="battery" Content="rgb:00,00,80">
<META HTTP-Equiv="battery" Content="x=255">
<META HTTP-Equiv="battery" Content="y=5">

<!-- wireless signal meter, color blue -->
<META HTTP-Equiv="signal" Content="show">
<META HTTP-Equiv="signal" Content="left_growfromright">
<META HTTP-Equiv="signal" Content="rgb:00,00,80">

```

```
<META HTTP-Equiv="signal" Content="x=5">
```

```
<META HTTP-Equiv="signal" Content="y=5">
```

```
<!-- for testing purposes, text zoom and quit button -->
```

```
<META HTTP-Equiv="quitbutton" Content="show">
```

```
<META HTTP-Equiv="quitbutton" Content="x=150">
```

```
<META HTTP-Equiv="quitbutton" Content="y=3">
```

```
<META HTTP-Equiv="Textbutton" Content="hide">
```

```
<META HTTP-Equiv="Textbutton" Content="x=200">
```

```
<META HTTP-Equiv="Textbutton" Content="y=3">
```



```
<!-- ----- -->
<!-- SYMBOL POCKET BROWSER MC7090 -> Operating System Windows Mobile
<!-- ----- -->

<meta http-equiv="cache-control" content="no-cache">
<meta http-equiv="pragma" content="no-cache">

<!-- setting best fitting text size for ITSmobile -->
<!--META HTTP-Equiv="TextSize" Content="smaller"-->

<!-- Only for Windows Mobile OS (operating system). When using Windows CE,
these meta tags are not required, because javascript in
ITSMOBILE/99/SCRIPTS/ALL/MOBILE.JS can be interpreted by the Microsoft
browser (higher JavaScript version). -->

<!-- key mapping F1 - F10 using ITSmobile javascript functions -->
<!-- With this mapping the key buttons 0 to 9 will act as function keys -->
<!-- F1 to F10. Use blue FUNC button to input numbers into edit fields -->

<head>
  <META HTTP-Equiv="OnKey0x70" content="Javascript:setFKey(1)">
  <META HTTP-Equiv="OnKey0x71" content="Javascript:setFKey(2)">
  <META HTTP-Equiv="OnKey0x72" content="Javascript:setFKey(3)">
  <META HTTP-Equiv="OnKey0x73" content="Javascript:setFKey(4)">
  <META HTTP-Equiv="OnKey0x74" content="Javascript:setFKey(5)">
  <META HTTP-Equiv="OnKey0x75" content="Javascript:setFKey(6)">
  <META HTTP-Equiv="OnKey0x76" content="Javascript:setFKey(7)">
  <META HTTP-Equiv="OnKey0x77" content="Javascript:setFKey(8)">
  <META HTTP-Equiv="OnKey0x78" content="Javascript:setFKey(9)">
  <META HTTP-Equiv="OnKey0x79" content="Javascript:setFKey(10)">
</head>
```

```
<META HTTP-Equiv="battery" Content="show">
<META HTTP-Equiv="battery" Content="right_growfromleft">
<META HTTP-Equiv="battery" Content="rgb:00,00,80">
<META HTTP-Equiv="battery" Content="x=175">
<META HTTP-Equiv="battery" Content="y=2">

<!-- wireless signal meter, color blue -->
<META HTTP-Equiv="signal" Content="show">
<META HTTP-Equiv="signal" Content="left_growfromright">
<META HTTP-Equiv="signal" Content="rgb:00,00,80">
<META HTTP-Equiv="signal" Content="x=5">
<META HTTP-Equiv="signal" Content="y=2">

<!-- for testing purposes, text zoom and quit button -->
<META HTTP-Equiv="Textbutton" Content="show">
<META HTTP-Equiv="Textbutton" Content="x=90">
<META HTTP-Equiv="Textbutton" Content="y=0">
<META HTTP-Equiv="quitbutton" Content="show">
<META HTTP-Equiv="quitbutton" Content="x=110">
<META HTTP-Equiv="quitbutton" Content="y=0">

<META HTTP-Equiv="SIPbutton" Content="show">
<META HTTP-Equiv="SIPbutton" Content="x=130">
<META HTTP-Equiv="SIPbutton" Content
```