



Rate Plan Advisor – Consumer Edition Guide

**IBM AIX™ Operating System
and the IBM WebSphere® Application Server**

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edocs Telco Manager Suite

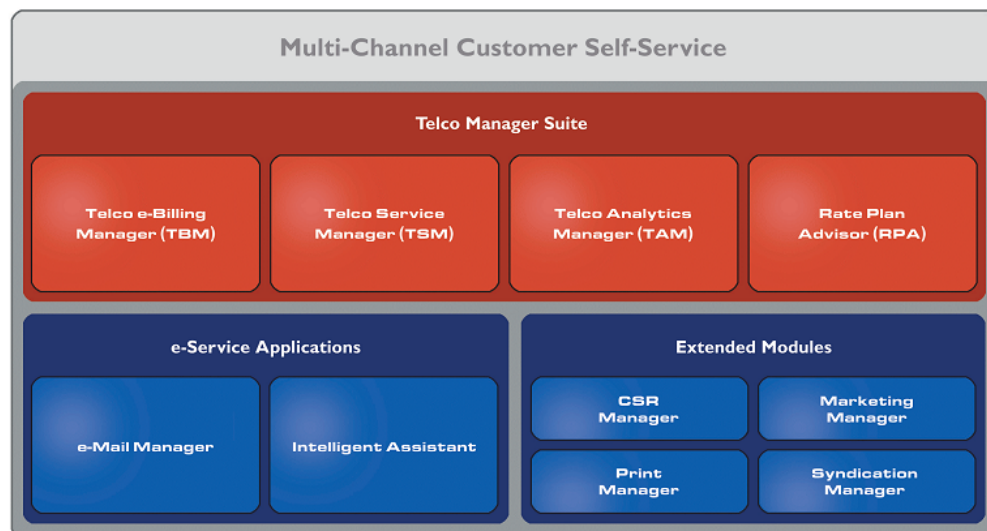
edocs *Telco Manager Suite* is a set of packaged software solutions designed specifically for the communications industry. These applications enable service providers to realize the full benefits of customer self service and e-Billing.

The suite includes a rich set of applications and functionality that give providers a complete multi-channel customer-self service capability. The suite includes packaged solutions for:

- e-Billing and Payment
- Service and Order Management
- Reporting and Analytics
- Rate Plan Advice

edocs solutions are packaged applications with sophisticated out-of-the-box capabilities. They can be tailored to meet specific customer requirements and business concerns, while establishing a solid platform for future business development.

The edocs Telco Manager Suite



The Suite includes the products described below.

Telco e-Billing Manager (TBM) – Business, Consumer, and Split Billing Editions

edocs Telco e-Billing Manager is a complete e-billing application for communications service providers that gives business and consumer customers valuable and convenient access to their communications bills along with the ability to easily make online payments. TBM Split Billing Edition contains powerful rules engines that “split” business and personal calls or services allowing service providers to identify and recover personal usage charges by their employees.

Telco Service Manager (TSM) – Business and Consumer Editions

edocs Telco Service Manager enables business and consumer customers of communications service providers to manage every aspect of their service relationship online. From a single convenient interface, customers can easily activate and manage subscriptions, order new products and services, and report and resolve problems. Business customers are able to complete these activities for individual employees, as well as company departments and divisions, across the entire organization.

Rate Plan Advisor (RPA) – Business and Consumer Editions

edocs Rate Plan Advisor is a web-based application that recommends the ideal rate plan for wireless subscribers in real-time. Individual consumers as well as large businesses can analyze their actual historical voice/mobile/data usage, find the best-fit rate plans, and compare the features offered by those plans. With its intuitive wizard user interface, RPA quickly guides end-customers or customer service representatives through the entire analysis process. In addition, a service provider’s customer care and marketing groups can also use RPA to identify pre-churn subscribers, simulate new rate plans, and run predictive analytics.

e-Service Applications

Whether customers are visiting an organization’s web site, communicating by email, or seeking to chat real-time with a CSR, edocs e-Service Applications ensure the ability to deliver knowledgeable and exceptional customer service. Driven by sophisticated intelligence engines and automation technologies, these solutions replicate the knowledge of an organization’s most experienced personnel, providing timely, accurate responses to customer inquiries.

e-Mail Manager

e-Mail Manager is an automated e-mail response management system that determines the intent of the incoming e-mail messages and composes personalized answers that can be automatically dispatched to customers or routed to service agents for a single-click review.

Intelligent Assistant

Intelligent Assistant is an advanced natural language-based self service application that empowers customers, prospects and customer service representatives (CSRs) to leverage all of an organization's knowledge assets -web pages, account data, documents, databases, existing legacy data sources, and knowledge bases -to quickly and accurately find answers to their specific billing, account, product and service questions.

Extended Customer Service Modules

edocs Extended Customer Service Modules augment its core online self--service and e-Billing capabilities and extend them to your customers' other preferred service channels. This enables carriers to provide more effective and efficient service regardless of what channel your customers choose.

Print Manager

Print Manager is a complete solution for data consolidation, visual statement formatting and design, and print output generation that significantly reduces the cost and complexity of producing paper bills, invoices and statements. edocs combined electronic and print output solution handily solves the challenge of account consolidation avoiding the need to alter complex back-end legacy systems to present a consolidated account view online or on paper.

Syndication Manager

Syndication Manager is an account content distribution system that handles all the complexities of securely distributing summary account information to any endpoint, while also enabling customers to go back to the billing organization's website to take advantage of more comprehensive self service capabilities.

CSR Manager

CSR Manager enables customer service representatives (CSR) to access critical account data and service-related information and capabilities to effectively service both online and off line customers.

CSR Manager is a browser-based application that couples traditional customer-facing online self service capabilities with CSR-specific features including case management, facilitating better service at the point of customer contact.

Marketing Manager

Marketing Manager is a personalization, campaign and content management solution that weaves personalized marketing and customer service messages based on specific account information throughout the customer self service and e-billing experience. The browser-based application facilitates collaboration between internal marketing and customer service departments as they create, deploy and track the performance of campaigns.

About This Guide

This guide describes the tasks required to install, configure, and integrate a Rate Plan Advisor application for analyzing rate plan usage. It provides instructions on how to install and use the Rate Plan Advisor Foundation Application.

This guide is intended for system administrators and those involved in the process of installing and configuring a Rate Plan Advisor application.

This guide assumes you have installed TBM and all supporting platform software.

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- What is your e-mail address?
- In which edocs product did a problem occur?
- What is your Operating System version?
- What were you doing when the problem occurred?
- How did the system respond to the error?
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- If the system wrote information to a log file, please send us that log file.

If the system crashed or hung, please tell us.



Installing Rate Plan Advisor (RPA) with InstallAnywhere

About Rate Plan Advisor

RPA is a customer-facing, web-based solution that recommends the ideal rate plans for B2C wireless Telco subscribers in real-time. Rate Plan Advisor can be tailored for your customer base to allow access and analyze critical rate plan information such as historical summary usage data, rate plan catalog, and customer profiles.



Rate Plan Advisor includes an ILOG project with a preconfigured rule set for the RPA Foundation Application, which you can run without installing ILOG. You must install ILOG to view ILOG projects or change ILOG rules.

RPA System Requirements

This guide assumes you are installing RPA on an AIX operating system, Oracle database, and WebSphere application server.

Check the Release Notes for specific information about system requirements, including version numbers and patches.

Before Installing RPA

Before installing Rate Plan Adviser, you must have edocs Platform Services installed (edocs Command Center).

See the *TBM Installation Guide* for instructions on how to run InstallAnywhere to install Platform Services.

Installing Rate Plan Advisor with InstallAnywhere

To install Rate Plan Advisor:

1. Follow the instructions in the *TBM Installation Guide* to run the InstallAnywhere installer, except use `rpainstr.bin` to launch InstallAnywhere for Rate Plan Advisor (instead of `dirins.exe`).
2. Install RPA **on all servers**.



Caution

edocs recommends that you accept the default RPA installation directory `EDCSrpa (RPA_HOME)`. Installing in the home directory `edocs` will overwrite required configuration files and is not recommended.

Where to Go From Here

Distributed Environments

If you are installing in a **distributed environment**, be sure that you have installed all Rate Plan Advisor components as follows before proceeding to [Configuring Your Database Server](#).

- **Database** components on database server(s)
- **App Server** components on application server(s)
- Database **client software** on application server(s).

Single Machine Environment

If you have installed Rate Plan Advisor **on a single machine** using the **Full** installation option, you can proceed directly to [Configuring Your Database Server](#).

2

Configuring Your Database Server

Creating the RPA Database (Oracle)

To create and configure the RPA database for Oracle:

1. On your database server, switch to your oracle user.

```
# su - oracle
```
2. Navigate to the database directory of your RPA installation, for example `$RPA_HOME/db/oracle`.
3. Copy the `create_rpa_schema.sql` file to your Oracle home directory, for example `export/home/oracle/product/9.2.0`.
4. Connect to the TBM database as your TBM database user, `edx_dba` and not as `oracle`.

```
$ sqlplus edx_dba/edx
```
5. Execute the SQL script to add the RPA schema, `create_rpa_schema.sql`.

```
SQL> @create_rpa_schema.sql
```
6. Commit your changes to the database.

```
SQL> commit;
```
7. Exit your SQL session.

```
SQL> exit
```

Where to Go From Here

Before you can upload sample data into the database you have created, you must configure your application server with the required JDBC and JMS resources. See [Configuring Your Application Server](#).

3

Configuring Application Server

Configuring ILOG Ruleset (WebSphere)

Configure the following WebSphere properties to enable the RPA sample application to pick up the ILOG rulesets.

1. In the WebSphere Administrative console, click on **Servers**, then **Application Servers**, then the **server** for TBM, then **Process Definition**, then **Java Virtual Machine**.

Note: In the table below `/opt/EDCSrpa = $RPA_HOME/`

Property Name	Value
<code>business_ruleset_location</code>	<code>/opt/EDCSrpa/samples/rpa/ILOG/ilog/rpa_rules/newprojectruleservice/j2se/src/data/business.ilr</code>
<code>calculation_ruleset_location</code>	<code>/opt/EDCSrpa/samples/rpa/ILOG/ilog/rpa_rules/newprojectruleservice/j2se/src/data/calculations.ilr</code>
<code>eligibility_ruleset_location</code>	<code>/opt/EDCSrpa/samples/rpa/ILOG/ilog/rpa_rules/newprojectruleservice/j2se/src/data/eligibility.ilr</code>
<code>scoring_ruleset_location</code>	<code>/opt/EDCSrpa/samples/rpa/ILOG/ilog/rpa_rules/newprojectruleservice/j2se/src/data/score.ilr</code>

2. After applying the new settings, **remember to**:
 - Save the master configuration.
 - Restart the server

JVM Memory

Rate Plan Advisor requires additional memory to use ILOG rulesets.

To increase JVM memory for your application server:

1. Stop your application server.
2. On your application server, navigate to your domain home directory, for example `$WS_HOME/AppServer/bin` (WebSphere).
3. Open your application server startup script, for example `startServer.sh` (WebSphere) in a text editor and save a backup copy.
4. In the `MEM_ARGS` section, increase the memory allocated to the JVM. For example:

```
MEM_ARGS="-ms256m -mx512m -Xss1m -noclassgc"
```

5. Save and close your updated application server startup script.
6. Start the server.

Configuring Java Resources (WebSphere)

JDBC Connection Pool (Oracle)

Configure a new **JDBC Provider**, choose **Oracle JDBC Driver** from the JDBC Providers drop-down list.

Configure the following properties:

Name	Classpath
Value	<code>\$ORACLE_HOME/jdbc/lib/classes12.zip</code> Enter the explicit path; do not use the variable.

JDBC Transaction Data Source

Create the following **Data Sources** for the new JDBC Provider.

Name	<code>edxRPATXDataSource</code>
JNDI Name	<code>edx.rpa.databasePool</code>

The DataSource you create should NOT be of type “Version 4”.

For the above Data Source, create J2C Authentication Data Entries.

Alias:	The name of the Java 2 Connector security. For example, <code>edx0</code>
User ID:	The TBM database user. For example, <code>edx_dba</code>

Alias:	The name of the Java 2 Connector security. For example, edx0
Password:	The password for the TBM database user. For example, edx .

Container-managed Authentication Alias: **hostname/edx0** (Select the name of the Java 2 Connector you just created from the dropdown.)

For **Connect Pool**:

Max Connections	20
-----------------	-----------

Custom Properties:

URL	jdbc:oracle:thin:@DB_host:DB_port:TBM_DB For example, jdbc:oracle:thin:@localhost:1521:edx0
-----	---

JMS Resource

Click on **Resources**, then **WebSphere JMS Provider**, and create one new **WebSphere Queue Connection Factory**.

Container-managed Authentication Alias: **hostname/edx0** (Select the name of the Java 2 Connector you created from the dropdown.)

Name:	edxRPATaskFactory
JNDI name:	edx/jms/RPATaskFactory

Queue Destination

Click on **Resources**, then **WebSphere JMS Provider**, and create one new **WebSphere Queue Destination**.

Name:	edxRPATaskQueue
JNDI Name:	edx/queue/RPATaskQueue
Persistence:	Application Defined
Priority:	Application Defined

Listener port for MDB

In the WebSphere Administrative console, click on **Servers**, then **Application Servers**, then the server for TBM, then **Message Listener Service**, then **Listener Ports**.

Name:	RPATaskListener
Connection factory JNDI name:	edx/jms/RPATaskFactory
Destination JNDI name:	edx/queue/RPATaskQueue
Initial State:	Started

Internal JMS Server

In the WebSphere Administrative console, click on **Servers**, then **Application Servers**, then the server for TBM, then **Server Components**, then **JMS Servers**.

Queue names:	edxRPATaskQueue
--------------	------------------------

4

Configuring the RPA Consumer Foundation Application

Configuration Overview

The Rate Plan Advisor ships with files for a Foundation Application. To use the Foundation Application, the following steps must be completed:

1. Deploy the Foundation Web Application.
2. Configure ILOG Ruleset.
3. Populate the database with sample data.
4. Create a Command Center Application.

Deploy Rate Plan Advisor Foundation Application

Use the *TBM Installation Guide* to deploy the Rate Plan Advisor Foundation J2EE application, `ear-rpa.ear`, in the application server subdirectory of your RPA installation:

```
.\RPA_HOME\J2EEApps\websphere\ear-rpa.ear (AIX/WebSphere)
```

Stop and restart your application server to pick up the new web application.

ILOG

ILOG Sample Rulesets

RPA leverages the rules engine of ILOG JRules through predefined rulesets. Each ruleset must be customized to the plan data being analyzed. The RPA foundation application ships with four sample rulesets that calculate eligible plans, approximate monthly cost, and compare the results to the current rate plan.

Name	Description
<code>eligibility.ilr</code>	Returns a fully constructed SQL statement object to return all the rate plans for which the subscriber is eligible (eligibility).
<code>calculations.ilr</code>	Based on eligibility , approximates the hypothetical monthly cost for each plan for the given analysis period (calculations). For plans that support rollovers, this ruleset must also evaluate the minutes, money, or data to roll over to the next period.
<code>score.ilr</code>	Based on eligibility and calculations , compares the current plan definition and approximate monthly cost to that of eligible plans and assigns a cost score to each plan (score).
<code>business.ilr</code>	Based on eligibility and score , presents the subscriber with eligible plans with a lower cost score than the current plan, including the current plan.

To use these sample rulesets with the RPA foundation application, please see [Configuring ILOG Rulesets](#).

To customize ILOG rules for your Rate Plan Advisor deployment, please consult your edocs Professional Services representative and your ILOG documentation.

You must install ILOG to view ILOG projects or change ILOG rules.

Configuring ILOG Rulesets

Rate Plan Advisor requires ILOG rulesets as application server system properties. You must manually extract the ruleset from the `.zip` file to make modifications.



Tip

Rate Plan Advisor includes an ILOG project with a preconfigured rule set for the RPA foundation application, which you can run without installing ILOG. You must install ILOG to view ILOG projects or change ILOG rules.

To extract the ILOG sample ruleset:

1. On your application server, navigate to the ILOG samples subdirectory of your RPA installation, for example `$RPA_HOME/samples/rpa/ILOG` (AIX).
2. Extract the `project.zip` file into an `/ilog` subdirectory. When extraction is complete, your installation should contain the directory `$RPA_HOME/samples/rpa/ILOG/ilog/rpa_rules` (AIX)

To view, edit, and publish ILOG rulesets:

1. To view sample rules, open the ILOG Rule Builder, navigate to the `$RPA_HOME/ILOG` directory, and open the project `rpa_rules`.
2. To edit a rule set, open the ILOG Rule Builder, right click on the project, and select **extract Rule Service**.

3. To publish a rule set, in the Rule Services window, right click on **New Project Rule Service** and select **Publish>Rule sets only**.
4. If you make additional changes after publishing the first time, select **Update from Project** before publishing the rules again.

Populating the RPA Database with Sample Data

In this step, you run a script file that automatically uploads preconfigured usage data and rate plan users to your RPA database.

Before running your script, check that:

- RPA database has been successfully created with `create_rpa_schema.sql`
- Your application server is running
- `edxRPATXDataSource` has been successfully created and targeted.

To populate the RPA database with sample data (AIX & WebSphere):

1. Navigate to the `$RPA_HOME/bin` directory.
2. Modify the `dataupload.sh` script to reflect your environment. Make sure that the path to each variable corresponds to your system configuration.

```
binDir=/opt/WebSphere/AppServer/bin
```

```
RPA_HOME=/opt/EDCSrpa
```

```
ORACLE_HOME=/opt/oracle/OraHome1
```

3. Enter the username & password to reflect your database environment. For example:

```
-Dusername=edx_dba
```

```
-Dpassword=edx
```

4. Save the file.
5. On your application server, in the `$RPA_HOME/bin` directory, execute the script `dataupload.sh`.



Tip

If `RPADataLoad` java command fails when populating sample data:
Run `create_rpa_schema.sql` on your database server to drop and recreate RPA database tables before populating the database with sample data using `com.edocs.rpa.utils.RPADataLoad`. See [Configuring Your Database Server](#).

Creating a Command Center Application

The RPA Consumer Foundation Application demonstrates online analysis of rate plan data. It requires you to create a RPA application.

Creating an Application for RPA

For detailed information about creating applications and using the Command Center, please see the *TBM Administration Guide*.

To create a TBM application for Rate Plan Advisor:

1. Log in to the TBM Command Center.
2. From the Main Console, click **Create New Application**.
3. The Create New Application screen appears. Enter your application name, datasource, and index partition count.

Name:	RPO (see caution)
Datasource Name:	edx/ejb/EdocsDataSource
Index Partition Count:	1



Caution

The RPA Foundation Application requires the application name to be RPO. To specify a different application name for your DDN, you must modify the DDN form-property for the business form bean in the `struts-config.xml` file. For more information, see [Struts and Tiles Configuration Files](#).

RPA does not use DataSource or a Partition Count, however, as it is a Command Center Application, these parameters must be populated.

4. Click Create Application and Continue. The **Create New Job** screen appears.
5. Click on “Main Console” from the left navigation.

5

Using Rate Plan Advisor

Rate Plan Advisor Overview

edocs Rate Plan Advisor is a web-based application that recommends the ideal rate plan for wireless subscribers in real-time. Individual consumers as well as large businesses can analyze their actual historical usage, find their optimal rate plans, and compare the features offered by those plans. With its intuitive wizard user interface, RPA quickly guides end users through the entire analysis process.

Complete User Experience

RPA includes a complete web-based applications geared for the consumer market (B2C). It enable users to find the best rate plan, guiding users through the entire analysis process, providing usage charting, drilldown to bill history, feature comparisons, and links to online ordering.

Real-time Optimization Engine

The RPA on-demand, real-time optimization engine recommends optimal rate plans for subscribers based on their actual historical usage, eligible rate plans, and customer profiles. The definition of the “optimal” rate plan depends heavily on a service provider’s current corporate objectives and associated policies.

Data Modeling and Integration

RPA references three key types of information: usage data, rate plan catalog, and customer profile information. To optimize a rate plan, RPA analyzes the actual historical usage patterns for existing customers as well as projecting usage for prospects and existing customers.

- Rate plans are by nature highly specific and volatile. RPA fully leverages a very flexible data model, a rules engine (ILOG JRules) for processing, and a J2EE struts and tiles framework for presentation.

Overview of RPA Analysis

1. For a particular subscriber number, search all available rate plans and select all eligible plans for that user.
2. For each eligible plan and each month¹ in the historical analysis period, approximate the hypothetical monthly cost. If applicable also calculate the rollovers (minutes, data, money, etc).
3. For each eligible plan, calculate the approximate average monthly costs.
4. Compare to the existing rate plan and select optimal recommended plans.
5. Format the output.

Using the RPA Consumer Foundation Application

About Sample Users and Accounts

The data load script populates your RPA database with sample plan and account usage data. For the **Consumer Foundation Application**, this data includes four users:

1. **Pierre**
2. **Jane**
3. **Bob**
4. **Nicole.**

The username must be specified in the URL to test the sample data for that user.

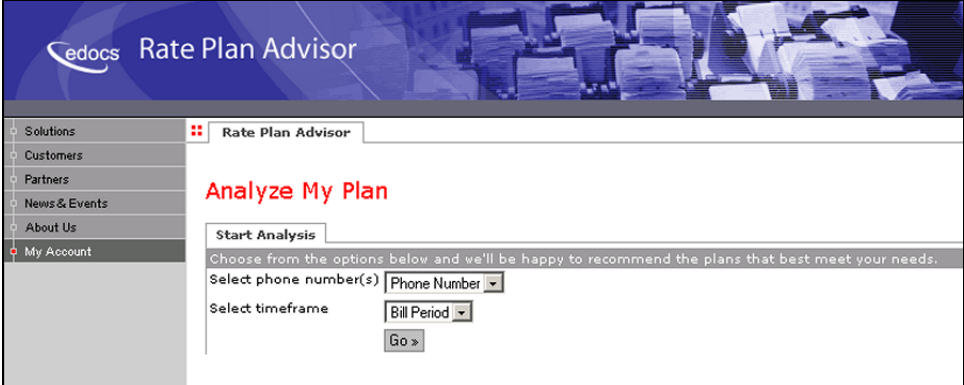
Consumer Foundation Application URL

Use the following URL for your local host to access the Consumer Foundation Application:

<http://localhost:7001/rpa/consumer/historical/show.do?uid=Pierre>

The Analyze My Plan screen appears.

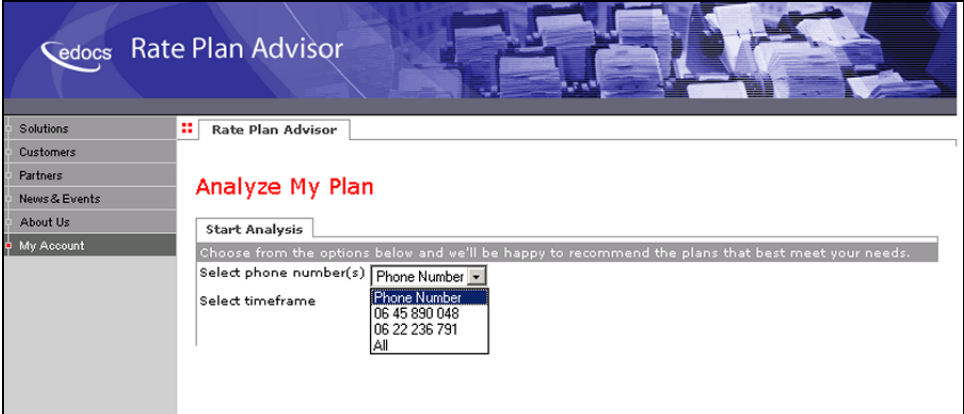
¹ The sample application assumes the bill period is one month.



Substitute **Pierre** with **Jane**, **Bob**, or **Nicole** to see data for the other sample users.

Select Phone Number and Bill Period

Select a phone number and a timeframe from the drop-down menus, and click **Go**.



View Rate Plan Advice Results

The **View Advice** screen appears with current and recommended plans for the phone number you selected.

Recommendations

Congratulations! We've analyzed your bills from the last 3 months and have found the following plans for you.

02 66 768 444		
Data Service		
	Current Plan	Recommended Plan
Plan Name	Data Plan Premier 25MB	Data Plan Premier 25MB
Plan Price	\$44.00/month	\$40.00/month
Average Monthly Cost	\$164.00/month	\$160.00/month <i>(Average Savings: Save \$4)</i>

03 44 567 890		
Multi-Media Message Service / Voice Service		
	Current Plan	Recommended Plan
Plan Name	Anywhere Plan Large	Anywhere Plan Large
Plan Price	\$15.00/month	\$15.00/month
Average Monthly Cost	N/A	N/A <i>(Average Savings: No savings)</i>

Data Service		
	Current Plan	Recommended Plan
Plan Name	Plan 1 MB	Data Plan Premier 10MB
Plan Price	\$10.00/month	\$22.00/month
Average Monthly Cost	\$196.67/month	\$68.67/month <i>(Average Savings: Save \$128)</i>

Click **Analyze More Plans** to use another time period or telephone number.

Troubleshooting the RPA Foundation Application

Error	What To Do
RPA application does not change account data when changing users in URL	Close and reopen your browser window to pick up the new user.
RPA consumer application displays User Pierre is not a valid RPA user	Make sure you have successfully created your database schema and uploaded sample data. Repopulate your database if necessary.
RPA consumer application displays User null is not a valid RPA user	Check URL and replace <code>localhost</code> or your host name with the IP address of your server.
RPA application displays Unable to analyze your rate plan at this time	Check to see that ILOG rulesets are properly extracted for sourcing at application server startup. Stop and restart your application server if necessary. See Configuring ILOG Rulesets .

6

Integrating Rate Plan Advisor

About RPA and Custom Web Applications

Rate Plan Advisor is designed for integration into custom web applications based on the edocs Telco Manager Suite. This template framework uses J2EE struts and tiles, and RPA developers are expected to be familiar with these advanced J2EE features. This chapter describes the configuration files included with the RPA foundation application `ear-rpa.ear`.

The RPA sample web application is designed to demonstrate basic functionality and is not intended as a standalone design template. To use Rate Plan Advisor, your edocs Professional Services team will work with you to integrate and customize RPA sample code into your own custom web application.

For more information on designing custom web applications with the edocs RI, including RPA integration, please consult your edocs Professional Services representative.

Login Considerations

User authorization for RPA should occur in the calling application. Once user authentication has been verified, there are two approaches to user access for RPA.

A request object or action form can specify the user id (`uid`), in which case the `uid` will appear as cleartext in the URL. To hide and/or encrypt the user id, you may set it in the session as an `HttpSession` object. Consult your edocs Professional Services representative to design the login approach that best fits your custom web application.

For more information about login and user management, please see the edocs SDK guide to *Implementing a User Management Framework*.

Struts and Tiles Configuration Files

Struts files define the struts actions for dynamic form elements to retrieve live data. **Tiles** files define the tiles actions to display page sections and elements and to analyze data.

Use the examples in these RPA sample XML files to edit your custom struts and tiles actions. Make sure that your web application archive (WAR) properly references your updated struts and tiles files.

struts-config.xml

The example `struts-config.xml` contains default configuration values for all RPA struts actions, including form beans, global forwards, action mappings, controllers, message resources, and plug-ins.

This file is located in the WAR file `war-rpa.war` here:

`WEB-INF/classes/com/edocs/rpa/app/struts-config.xml`

Edit the values in `struts-config.xml` to control, among other values, the properties of the `consumer`, `business`, and `previous` forms. This example displays the form properties of these three default form beans (illustration created with Altova XML Spy).

form-bean (3)		form-property		
= name	= type	= name	= type	= initial
1 consumerForm	org.apache.struts.action.DynaActionForm	1 analysisType	java.lang.String	
		2 activeStep	java.lang.String	
		3 phoneNumber	java.lang.String	
		4 billPeriod	java.lang.String	3
2 businessForm	org.apache.struts.action.DynaActionForm	1 accountNumber	java.lang.String	2
		2 billPeriod	java.lang.Integer	3
		3 ddn	java.lang.String	RPO
		4 onlineThreshold	java.lang.Integer	2
		5 id	java.lang.Long	
		6 viewName	java.lang.String	RPA
		7 viewType	java.lang.String	HTML
3 previousForm	org.apache.struts.action.DynaActionForm	1 accountNumber	java.lang.String	2
		2 pageSize	java.lang.Integer	10
		3 pageNumber	java.lang.Integer	0
		4 sortBy	java.lang.String	date_submitted
		5 sortOrder	java.lang.String	descending

tiles-defs.xml and tiles-defs-rpa.xml

The example `tiles-defs.xml` contains definitions for all custom tiles actions **based on the edocs Reference Implementation**, including templates for page, tab, module, and error tiles. Elements specifically added or modified for Rate Plan Advisor include buttons, wizard steps, and side modules.

The example `tiles-defs-rpa.xml` contains definitions for all custom tiles actions **specific to Rate Plan Advisor**, including buttons, tabs, and page definitions. It also defines tiles actions for the Consumer Foundation, and Charting modules, including current and historical plans, statement history, analysis wizards, and results comparisons.

Application Resources Properties File

Application resource properties are specified in `struts-config.xml`. Use the examples in this RPA sample properties file to edit your custom application resource properties. Make sure that your web application archive (WAR) properly references your updated properties file.

ApplicationResources.properties

This file defines the static text for the RPA user interface. The example `ApplicationResources.properties` contains definitions for all screen displays and messages, including form names, page headers, menu text, user prompts, column headings, and any custom page elements.

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