System/Service Connection - MMS Service Connection

Summary

MMS Service connection is a component interfaced from the mobile MMS service that M-Gov(http://www.mgov.go.kr [http://www.mgov.go.kr]) of National Computing and Information Agency (NCIA) at the Ministry of Public Administration and Security (MOPAS) provides for government agency.

The actual messages are transferred and its results are returned by the API provide by NCIA's M-Gov(http://www.mgov.go.kr [http://www.mgov.go.kr]).
This component only delivers user inputs and handles the returned results.
It allows long messages, images, videos and ring tones to be transmitted.

This component allows the user to send MMS and the administrator to manage MMS attachment files and transmission results.

* Flow chart

This component has been developed and tested on the browsers available in the mobile devices.
Since the browser support is different depending the device (PC or mobile device), development and application should be carefully carried out.

The test devices include Galaxy S2, Galaxy S, Galaxy Tab 1, IPad2, IPhone 4.
The test mobile browsers include Android basic browser, Firefox, Safari and Opera Mobile.

The results are as follows.

Android
For the Android web browser, Firefox(6.xx), opera mobile, in android OS 2.3(gengerbread), he execution of HTML5, CSS3 and components is supported stably.
However, in Android 2.1, 2.2, the previous version of Android OS 2.3 (gingerbread), the support for HTML5 and CSS3 is not sufficient to implement the component UI properly.

Opera Mobile was excluded from the support as it caused some problems with handling colors and events.
For testing, Galaxy, Galaxy S2 and Galaxy Tab 1 were used

iOS
iOS is one of the three supported browsers and both version (iOS 4.2, 4.3) supported HTML5 and CSS3 relatively well.
iPhone4 and iPad2 were used for testing.

Prerequisites

In order to use Mobile MMS service, you have to apply for MMS service separately.
This service is managed by M-Gov(http://www.mgov.go.kr [http://www.mgov.go.kr]) of National Computing and Information Agency (NCIA) at the Ministry of Public Administration and Security (MOPAS) .

The service application procedure is as follows.

①   Preparation for application: the applying institute should check preparation items for using the integration center service (system specifications and network environment).

- · System specifications: JAVA 1.4 or later, Unix, Linux, Windows
- · Network environment: possible though not independent configuration(partly supportable to the server that is operation the homepage or the server that carries out the work
- · Others: the system should be connected to Internet and the administration network

② Service application: prepare the application and submit to the government integration computing center (refer to the site regulations of use)
③ Usage information: the integration center informs of the results in writing within 15 days from the submission date
④ Service preparation: the applying institute uses "M-Gov interlocking API"
⑤ Service initiation: the center may cancel the permission if the applying institute doesn't initiate the service within 60 days after approval
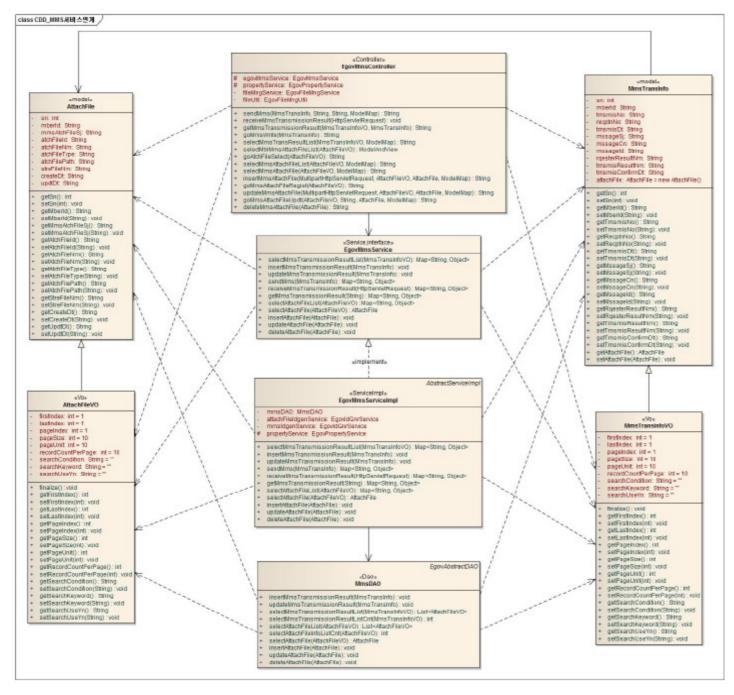
For details and contact, refer to GovernmentIntegrationComputingCenter M-gov(http://www.mgov.go.kr [http://www.mgov.go.kr]).

Description

Mobile MMS service is composed of MMS attachment file(MMS attachment file list inquiry and detailed inquiry, registration, modification, deletion, etc.) and MMS transmission results list inquiry and MMS transmission function
.(refer to the relevant functions)

Class diagram

class CDD_MMS서비스연계

Related sources

Types	Source names	Notes
C ontroller	egovframework.mbl.com.mms.web.EgovMmsC ontroller.java	MMS C ontroller C lass
Service	egovframework.mbl.com.mms.service.EgovMmsService.java	MMS Service C lass
ServiceImpl	egovframework.mbl.com.mms.service.impl.EgovMmsServiceImpl.java	MMS ServiceImpl C lass
Model	egovframework.mbl.com.mms.service.MmsTransInfo.java	MMS transmission information Model C lass
Model	egovframework.mbl.com.mms.service.AttachFile.java	Attachment file Model C lass
VO	egovframework.mbl.com.mms.service.MmsTransInfoVO.java	MMS transmission information VO C lass
VO	egovframework.mbl.com.mms.service.AttachFileVO.java	attachment file VO C lass
DAO	egovframework.mbl.com.mms.service.impl.MmsDAO.java	MMS Dao C lass
JSP	/WEB-INF/jsp/egovframework/mbl/com/mms/EgovMmsAttachFileList.jsp	attachment file list inquiry page
JSP	/WEB-INF/jsp/egovframework/mbl/com/mms/EgovMmsAttachFileRegist.jsp	attachment file registration page
JSP	/WEB-INF/jsp/egovframework/mbl/com/mms/EgovMmsAttachFileUpdt.jsp	Attachment file modification page
JSP	/WEB-INF/jsp/egovframework/mbl/com/mms/EgovMmsAttachFileDetail.jsp	attachment file detail inquiry page
JSP	/WEB-INF/jsp/egovframework/mbl/com/mms/EgovMmsTransResultList.jsp	MMS transmission results lost inquiry page
JSP	/WEB-INF/jsp/egovframework/mbl/com/mms/EgovMobileMmsRegist.jsp	Mobile MMS transmission page
JSP	/WEB-INF/jsp/egovframework/mbl/com/mms/EgovMobileAttachFileList.jsp	Mobile attachment file inquiry page
QUERY XML	resources/egovframework/sqlmap/mbl/com/mms/EgovMms_SQL_XXX.xml	MMS QUERY XML
Validator Rule XML	resources/egovframework/validator/validator-rules.xml	XML that defines Validator Rule
Validator XML	resources/egovframework/validator/mbl/com/mms/EgovMms.xml	MMS Validator XML
Message properties	resources/egovframework/message/message-common_ko_KR.properties	MMS Message properties
Idgen XML	resources/egovframework/spring/com/context-idgen.xml	MMS transmission results Id, attachment file IdgenratoinIdgen XML

ID Generation

- In order to use ID Generation Service, add MMS_ID (MMS transmission ID) and ATCH_ID (attachment file ID) entries to COMTECOPSEQ, sequence storing table

Related table

Table name	Table name (English)	Notes
MMS transmission results	C OMTNMMS	Manages MMS transmission results
Attachment file	C OMTNMMSATTAC H	Manages attachment file
Common detail code	C OMTC C MMNDETAILC ODE	Transmission result code, request results code
File	C OMTNFILE	Manages attachment file information
File datails	C OMTNFILEDETAIL	Manages attachment file detail information

Login/membership management/permission management

The MMS service connection requires the user/administrator authentication in MMS writing and transmission, transmission result list inquiry, attachment file list inquiry and detail inquiry

registration, modification and deletion.
For authentication, you can connect with login, membership management and permission management components. If you use Spring Security for authentication, make change as in the followings.
src/main/java/resources/egovframework/spring/com/context-common.xml

```
<!-- Service class that can check the authenticated user's LoginVO, permissions and authentication -->
<bean id="egovUserDetailsHelper" class="egovframework.com.cmm.util.EgovUserDetailsHelper">
    <property name="egovUserDetailsService">
        <ref bean="egovUserDetailsSecurityService" />
    </property>
</bean>

<!-- Bean that will use Security-based authentication -->
<bean id="egovUserDetailsSecurityService" class="egovframework.com.sec.ram.service.impl.EgovUserDetailsSecurityServiceImpl"/>
```

web.xml

```
<!-- 2. Spring Security Setup -->
<filter>
    <filter-name>springSecurityFilterChain</filter-name>
    <filter-class>org.springframework.web.filter.DelegatingFilterProxy</filter-class>
</filter>
<filter-mapping>
    <filter-name>springSecurityFilterChain</filter-name>
    <url-pattern>/*</url-pattern>
</filter-mapping>

<listener>
    <listener-class>org.springframework.security.ui.session.HttpSessionEventPublisher</listener-class>
</listener>
<!-- security end -->

<!-- 4. 4Filter setup for Spring Security logout setup -->
<filter>
    <filter-name>EgovSpringSecurityLogoutFilter</filter-name>
    <filter-class>egovframework.com.sec.security.filter.EgovSpringSecurityLogoutFilter</filter-class>
</filter>
<filter-mapping>
    <filter-name>EgovSpringSecurityLogoutFilter</filter-name>
    <url-pattern>/uat/uia/actionLogout.do</url-pattern>
</filter-mapping>

<!-- 4. 4Filter setup for Spring Security login setup -->
<filter>
    <filter-name>EgovSpringSecurityLoginFilter</filter-name>
    <filter-class>egovframework.com.sec.security.filter.EgovSpringSecurityLoginFilter</filter-class>
</filter>
<filter-mapping>
    <filter-name>EgovSpringSecurityLoginFilter</filter-name>
    <url-pattern>*.do</url-pattern>
</filter-mapping>
```

As in the above, add Spring Security filter to web.xml.

For details on login, membership management, permission management, refer to the followings.

- Login:general login
- Membership management: user management
- Permission management:permission management

The following pages need the user/administrator permissions.

Permission type	Page path	Description
User	/mbl/com/mms/goMmsWrite.mdo	MMS writing screen
User	/mbl/com/mms/goAtchFileSelect.mdo	MMS attachment file selection screen
User	/mbl/com/mms/sendMms.mdo	MMS transmission
Administrator	/mbl/com/mms/selectMmsTransResultList.mdo	MMS transmission results list inquiry screen
Administrator	/mbl/com/mms/getMmsTransmissionResult.mdo	MMS transmission results
Administrator	/mbl/com/mms/selectMmsAttachFileList.mdo	MMS attachment file list inquiry screen
Administrator	/mbl/com/mms/selectMmsAttachFile.mdo	MMS attachment file detail inquiry screen
Administrator	/mbl/com/mms/goMmsAttachFileRegist.mdo	MMS attachment file registration screen
Administrator	/mbl/com/mms/insertMmsAttachFile.mdo	MMS attachment file registration
Administrator	/mbl/com/mms/goMmsAttachFileUpdt.mdo	MMS attachment file modification screen
Administrator	/mbl/com/mms/updateMmsAttachFile.mdo	MMS attachment file modification
Administrator	/mbl/com/mms/deleteMmsAttachFile.mdo	MMS attachment file deletion

Settings and Notes

*   The currently distributed mobile common component adopts HTML5 and CSS3 and this means that it doesn't support the standards for mobile web site validity check of MobileOK and W3C. For details on correct validity check, please contact the competent professional institute.

* Security verification is under progress on the currently distributed mobile component. We plan to complete security verification as soon as possible to release a new security-patched version.

Environmental settings

The followings are the required items and environmental settings to use MMS service connection.

- Property files settings (egovframework/egovProps/conf/mms.properties)

```
#--------------------------------------------------------------------
#
#    mms.properties : Config file that shows MMS connection information
#
#--------------------------------------------------------------------
#    1.    key = value structure.
#    2.    Key values cannot include space. Value can include space
#    3.    Key values cannot include Korean,  Value can include Korean
#    4.    If a new line is needed, add '\' to the end of the line (if        you have to use '\', then use '\\'.)
#    5.    In Windows, the directory symbol should be: '\\' or '/' (do not use '\'.)
#    6.    Directory symbol in Unix : '/'
#    7.    For comments,    #
#          use
#    8.    If there is space after values, an error could occur when referenced by sublets. Use trim() or set the properties values without space.
#--------------------------------------------------------------------

# MMS connection information
mmsPort = 13000(or 14000)
mmsHost = M-Gov G/W IP
mmsId = Authentication ID
mmsPassword = Authentication password
```

In above, enter information in mmsHost based on M-Gov guide and enter the issued authentication information in mmsId and mmsPassword.
For mmsPort, use port 14000 for development test and port 13000 for actual service.
(when using port 14000, massages are not transmitted to users, but M-Gov Gateway Server returns result value to the transmission requester.)

To use this component, the following libraries are required and these libraries are added toclasspath.

```
activation.jar
commons-codec-1.3.jar
commons-httpclient-3.1-alpha1.jar
commons-logging-1.0.4.jar
dom.jar
log4j-1.2.9.jar
mail.jar
mose-api-1.5.1.jar
saaj-api.jar
saaj-impl.jar
soap.jar
xalan.jar
xercesImpl.jar
```

You can download the above libraries from M-Gov (http://www.mgov.go.kr [http://www.mgov.go.kr]).
(M-Gov home > Service Introduction> FAQ > No.6 QUESTION)

Related functions

Mobile MMS service is largely composed of MMS transmission and mobile attachment file selection for users, and MMS transmission results list inquiry, MMS attachment file list inquiry, MMS attachment file detail inquiry, MMS attachment file registration, MMS attachment file modification and MMS attachment file deletion for administrators.
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Mobile MMS Transmission

Business rules

You can write and transmit MMSs. The transmission request results are outputted on the message window. If failed, you can re-transmit.
Click the attachment file selection button and move the attachment file selection screen to select an attachment file.
Every time you transmit MMS, the transmission information is automatically registered with the transmission request results in MMS transmission history table.
When registed, MMS_ID column uses "egovframework.rte.fdl.idgnr.impl.EgovTableIdGnrService".

```
Primary Key => MMS_ID : serial number is automatically generated.
```

```
<bean name="egovMmsIdGnrService"
        class="egovframework.rte.fdl.idgnr.impl.EgovTableIdGnrService"
        destroy-method="destroy">
        <property name="dataSource" ref="dataSource" />
        <property name="blockSize"           value="10"/>
        <property name="table"               value="COMTECOPSEQ"/>
        <property name="tableName"           value="MMS_ID"/>
</bean>
```

Related codes

N/A

Screen and execution manual

Action	URL	Controller method	QueryID
Transmission	/mbl/com/mms/sendMms.mdo	sendMms	
Re-transmission	/mbl/com/mms/sendMms.mdo	sendMms	
Attachment file selection	/mbl/com/mms/goAtchFileSelect.mdo	goAtchFileSelect	
Transmission information registration	/mbl/com/mms/sendMms.mdo	insertMmsTransmissionResult	"MmsDAO.insertMmsTransmissionResult"

Transmission: transmits MMS information.

Re-transmission: retransmit MMS that is not transmitted.

Attachment file selection: click Select button to move to the attachment file selection screen.

Mobile attachment file selection

Business rules

Select a file to attach to MMS.

Related codes

N/A

Screen and execution manual

Action	URL	Controller method	QueryID
Inquiry	/mbl/com/mms/selectMblMmsAttachFileList.mdo	selectMblMmsAttachFileList	"MmsDAO.selectAttachFileList"

Click list: Use the selected attachment file information to move to mobile MMS transmission page.

MMS transmission results list inquiry

Business rules

Use inquiry conditions to carry out the list inquiry. Click the result check button to check MMS transmission results.

Related codes

Code	Code classification name	Code ID	Code name
C OM079	Transmission results	TSR01	Transmission receiving successful
C OM079	Transmission results	TSR02	Transmission receiving failed
C OM080	Request results	RQR01	Request successful
C OM080	Request results	RQR02	Request failed

Screen and execution manual

Action	URL	Controller method	QueryID
Inquiry	/mbl/com/mms/selectMmsTransResultList.mdo	selectMmsTransResultList	"MmsDAO.selectMmsTransmissionResultList"
	/mbl/com/mms/selectMmsTransResultList.mdo	selectMmsTransResultListCnt	"MmsDAO.selectMmsTransmissionResultListCnt"
Check	/mbl/com/mms/getMmsTransmissionResult.mdo	getMmsTransmissionResult	"MmsDAO.updateMmsTransmissionResult"

10 MMS transmission result lists are retrieved per page and paging is carried out on 10 page basis. The search conditions include transmission number, receiving number, transmission results and request results.
To change the search range per page, change pageUnit and pageSize in context-properties.xml.
(this setting affects the entire common service function.)

Inquiry: in order to retrieve MMS transmission results, select the search condition at the top, enter a key word and click Inquiry button.
Check: check MMS transmission results.

MMS attachment file list inquiry

Business rules

You can use the search condition to carry out list inquiry. Click the Register button to move to MMS attachment file registration screen to register MMS attachment file.

Related codes

N/A

Screen and execution manual

Action	URL	Controller method	QueryID
Inquiry	/mbl/com/mms/selectMmsAttachFileList.mdo	selectMmsAttachFileList	"MmsDAO.selectAttachFileList"
	/mbl/com/mms/selectMmsAttachFileList.mdo	selectMmsAttachFileListCnt	"MmsDAO.selectAttachFileListCnt"
Register	/mbl/com/mms/goMmsAttachFileRegist.mdo	goMmsAttachFileRegist	
Click list	/mbl/com/mms/selectMmsAttachFile.mdo	selectMmsAttachFile	"MmsDAO.selectAttachFile"

10 MMS attachment file lists are retrieved per page and paging is carried out on 10 page basis. The search conditions include titles and file names.
In order to change the search range per page, changepageUnit and page in Sizecontext-properties.xml.
(this setting affects the entire common service function.)

Inquiry: in order to retrieve MMS attachment files, select the search conditions at the top, enter a key word and click the Inquiry button.
Register: in order to register MMS attachment files, use the register button at the top and move to MMS attachment file registration screen.
Click list: moves to MMS attachment file detail inquiry screen.

MMS attachment file detail inquiry

Business rules

By clicking MMS attachment file list inquiry, you can move to this screen. It shows detail information on MMS attachment file.

Related codes

N/A

Screen and execution manual

Action	URL	Controller method	QueryID
Update	/mbl/com/mms/goMmsAttachFileUpdt.mdo	goMmsAttachFileUpdt	
Delete	/mbl/com/mms/deleteMmsAttachFile.mdo	deleteMmsAttachFile	"MmsDAO.deleteAttachFile"
List	/mbl/com/mms/selectMmsAttachFileList.mdo	selectMmsAttachFileList	"MmsDAO.selectAttachFileList"

On the MMS attachment file detail inquiry screen, you can carry out MMS attachment file modification, MMS attachment file deletion and MMS attachment file list inquiry.

Update: by clicking Update button, you can move to the screen where MMS attachment file can be modified.
Delete: by clicking Delete button, view the message asking whether to delete before deleting.
List: moves to MMS attachment file list inquiry screen.

MMS attachment file registration

Business rules

- The red * means the required items.

- When stored, ATCH_ID column uses "egovframework.rte.fdl.idgnr.impl.EgovTableIdGnrService".

Primary Key => ATCH_ID : serial number automatically generated

```
<bean name="egovAttachFileIdGnrService"
        class="egovframework.rte.fdl.idgnr.impl.EgovTableIdGnrService"
        destroy-method="destroy">
    <property name="dataSource" ref="dataSource" />
    <property name="blockSize"          value="10"/>
    <property name="table"              value="COMTECOPSEQ"/>
    <property name="tableName"          value="ATCH_ID"/>
</bean>
```

-MMS service API provided by M-Gov(http://www.mgov.go.kr [http://www.mgov.go.kr]) has constraints when sending attachment files.
Therefore there are constraints on file size and type when registering attachment files. Refer to the following table.

contents		Description
Image	Support type	jpg, sis
	capacity	20 KB
Ring bell	Support type	mmf
	capacity	20 KB
Video	Support type	skm, k3g
	capacity	300 KB

※mmf files are replayed on the feature phone.

Related codes

N/A

Screen and execution manual

Action	URL	Controller method	QueryID
Register	/mbl/com/mms/insertMmsAttachFile.mdo	insertMmsAttachFile	"MmsDAO.insertAttachFile"

List	/mbl/com/mms/selectMmsAttachFileList.mdoselectMmsAttachFileList "MmsDAO.selectAttachFileList"

Enter basic information on MMS attachment files.

Register: store the entered MMS attachment file.
List: moves to MMS attachment filelist inquiry screen.

MMS attachment filemodification
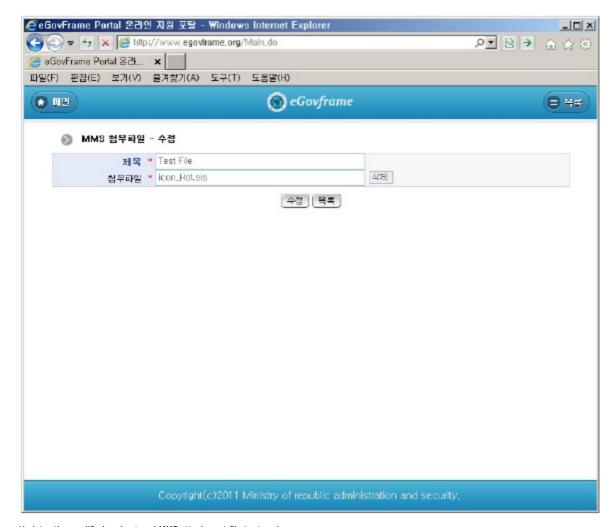
Business rules

- The red* means the required items.

Related codes

N/A

Screen and execution manual

Action	URL	Controller method	QueryID
Update	/mbl/com/mms/updateMmsAttachFile.mdo	updateMmsAttachFile	"MmsDAO.updateAttachFile"
List	/mbl/com/mms/selectMmsAttachFileList.mdo	selectMmsAttachFileList	"MmsDAO.selectAttachFileList"

Store the entered MMS attachment file.

Update: the modified and entered MMS attachment file is stored.
List: moves to MMS attachment file list inquiry screen.

References

- Refer to the execution environment: ID Generation Service
- Refer to the common component: File Manage service
- Distribution and test: Mobile Common Component System and distribution package plan
- Related database structure and schema: related database structure and schema