

CMG Web Service Interface (CWI) Developer's Guide

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CMG Web Service Interface (CWI) Developer's Guide - CMG BluStar Web
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1 OVERVIEW

1.1 INTENDED AUDIENCE

This document is intended for programmers and system managers who are responsible for programming and system analysis. General knowledge of the CMG - BluStar Web system and Intranet/Internet programming is required. This document describes how to use the CMG Web Service Interface (CWI) and the Authorization and Authentication (AnA) services.

1.2 SHORT DESCRIPTION OF CMG WEB SERVICE INTERFACE

The CMG Web Service Interface (CWI) is designed for application programmers to interact with the CMG Web system. The Web Service Interface together with the CMG server encapsulates the complex internal structure in the CMG server. The application programmer does not need any knowledge of PBXs, Message Systems and other related subsystems.

The CWI service uses the Authorization and Authentication Service (AnA) to access the CMG databases. The AnA Service also provides roles. The roles define what the external application can modify in the CMG database.

1.2.1 CWI FEATURES

1.2.1.1 User-related methods

(Web service: CMGUserService)

Browsing address

<http://CmgServer/CMGUserInformationService/CMGUserService.aspx>

- Search user information (GetUserInformation)
- Get “all” user data for a selected user (GetUserInformationByld)
- Log in user, get record id and user-specific info for the logged in user (Login)
- Add new user information (AddUser)
- Update user information UpdUser)
- Delete user (DelUser)
- Add user message (NewMessage)

CWI can create an organizational structure (organization tree) based on the added subscriber/user organizational affiliation (OrgPath). See Configuration settings for more information.

1.2.1.2 Activity related methods

(Web service: CMGActivityService)

Browsing address

<http://CmgServer/CMGActivityService/CMGActivityService.aspx>

- Get user activity information, by user id (GetActivityInformationByUserId)
- Get user activity information, by activity id (GetActivityInformationByActivityId)
- Create new user activity (NewActivity)
- Update user activity (UpdActivity)
- Delete user activity (DelActivity)
- Get activity related system configuration (GetActivitySysConf)
- Get current date and time from the database server (GetDbDateTime)

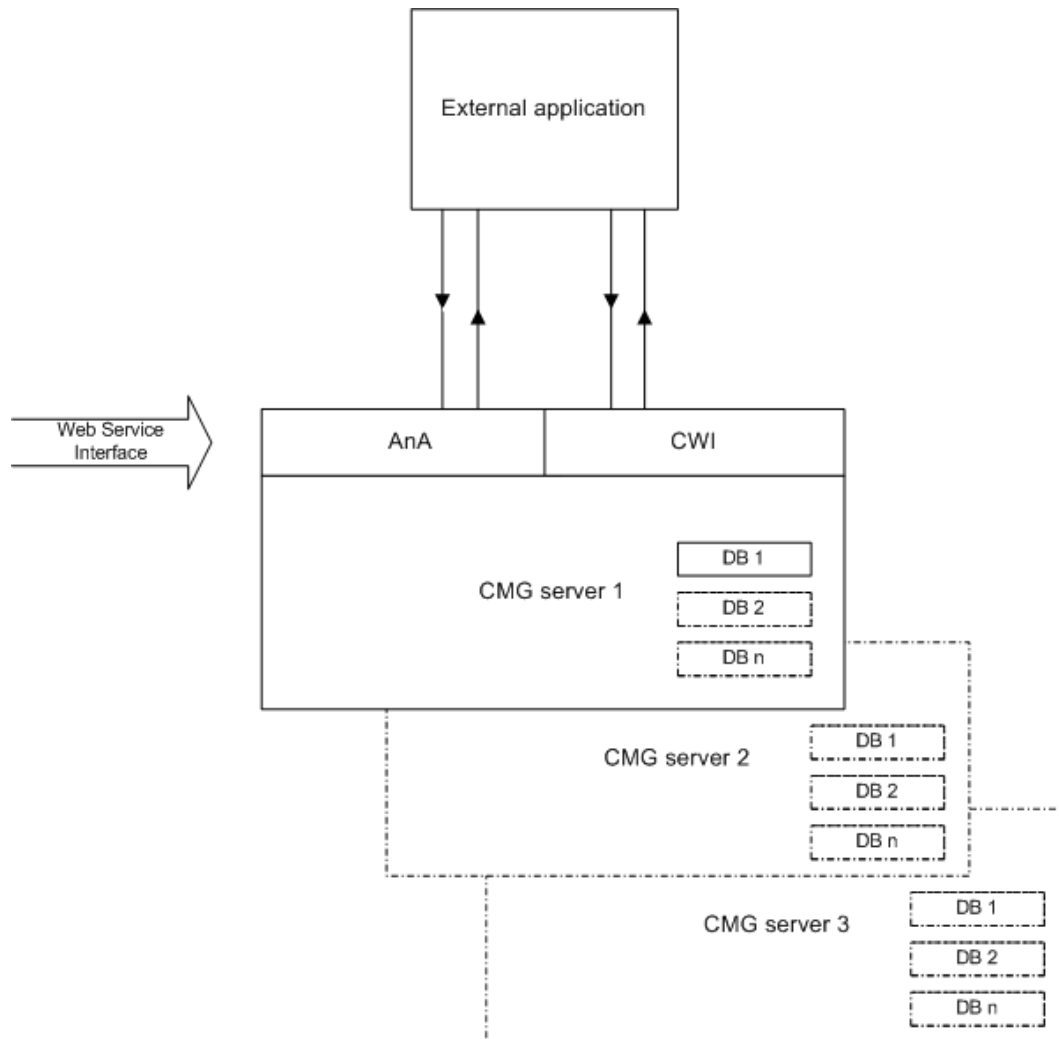
1.3 SHORT DESCRIPTION OF THE ANA WEB SERVICE INTERFACE

The Authorization and Authentication service (AnA) is used to access the CMG database. The remote application authenticates **once** using username and password. The AnA service returns a token that holds database access information and user roles. To ensure that a token is not forged, the tokens are signed using asymmetric crypto. The AnA service generates a signature using its private key and appends this signature to the token.



Note! The Ana token must be added to the SOAP header to be able to access CWI.

1.4 SYSTEM OVERVIEW – GRAPHICAL VIEW



CWI supports ASP solutions with multiple CMG databases located on different CMG servers.

Company views and related CWI system users are configured in Configuration Manager.

2 CMG WEB SERVICE INTERFACE

2.1 GETUSERINFORMATION

Web service: CMGUserService

This method is used to search the CMG user database. The user record content is used as search keys. This method returns a subset of the user record (the most commonly used data).

2.1.1 REQUEST PARAMETERS <COMMON HEADER>

PARAMETER	TYPE	DESCRIPTION
<AnaToken>	String	Access token that is returned from the AnA service. This token holds database access information and user roles.
<Application>	String	Application name. This parameter makes it possible to have different sections for different applications in the layout table in the database. Used for hiding specific fields for an application using the CWI service. Example: CWI_GetUserInfo_CMGMobile_form
<CompanyView>	String	Not implemented

2.1.2 REQUEST PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<SearchKeys>		Start of array of search keys. See Appendix 3 for valid search keys.
<string>	String	Search key 1 (e.g., LNAME=Williams or LNAME=Wl*) See Appendix 2 for more search key options.
<string>	String	Search key n.
</SearchKeys>		End of array of search keys.
<Custgrp>	String	Customer group(s) (e.g. 1 or 2, 3, 4).
<OfficeUsersOnly>	Boolean	Search for CMG Office users only (Office-enabled users).
<VisitorsOnly>	Boolean	Search for visitors only (Visitors added by CMG Visit).
<VisitorHostsOnly>	Boolean	Search for users that are allowed to receive visitors.
<ShowInfoActivity>	Boolean	Indicates if activity information should be shown.
<MaxSearchHits>	Integer	Maximum number of search hits (Default value is 25). CWI will limit the number of search results if this value is set to 200 – 300 or more. The response parameter MoreToGet will indicate if there are more search results to be retrieved, and then a new request must be made where the GetNextPos parameter is incremented with the value of the response parameter NumberOfSearchHits.
<GetNextPos>	Integer	Context parameter. If there are more results, indicated

PARAMETER	TYPE	DESCRIPTION
		by the response parameter MoreToGet (True), then GetNextPos parameter must incremented with the value of the response parameter NumberOfSearchHits to get the next results.
GetFieldNames>	Integer	0 = Do not get the field names. 1 = Get translated field names and subscriber data from the CMG system. 2 = Only get the translated field names from the CMG system (used for application initialization).
<TZOffset>	Integer	Time zone Offset in minutes. (For new designs use the TZid parameter instead since TZid also support daylight saving).
<TZId>	Integer	Time Zone Id. Pass the response value from the Login method response value 'TimeZone' to convert date and time to the users configured time zone.
<Lang>	String	Specifies language (The field names and date/time data are converted to selected language. See Appendix 1 for valid language codes.)
<ApplicationName>	String	Name of the application using this service (used for error logging).
<AdvShowfields>	String	Not implemented.

2.1.3 RESPONSE PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<CMGStatus>		CMG status block.
<NumberOfSearchHits>	Long	The number of users found.
<MoreToGet>	Boolean	Indicates that there are more search hits to get.
<DbId>	Integer	Database Identity (E.g. Nice02 -> DbId = 2).
<ErrCode>	Long	Error code generated by the CMG system (0 = OK).
<ErrDescription>	String	Error Description.
</CMGStatus>		
<FieldNames>		CMG field names (translated to requested language).
<LastName>	String	Last name.
<FirstName>	String	First name.
<Telno>	String	Phone number.
<Cordless>	String	Cordless number.
<OrgName>	String	Organization name (hierarchic organization mode).
<Org1>	String	Organization field 1 (hierarchic organization mode).
<Org2>	String	Organization field 2 (hierarchic organization mode).
<Div>	String	Division (compatible organization mode).

PARAMETER	TYPE	DESCRIPTION
<Dep1>	String	Department field 1 (compatible organization mode).
<Dep2>	String	Department field 2 (compatible organization mode).
<lcp1>	String	Intercept position 1.
<lcp2>	String	Intercept position 2.
<MiscFields>		Array of miscellaneous fields (Customer specific fields).
<MiscNumber>	String	Miscellaneous field number (1 – 30).
<Name>	String	Miscellaneous field name.
</MicsFields>		
<Subject>	String	Subjects.
<Sign>	String	Operator signature.
<Reason>	String	Reason.
<ReturnDateTime>	String	Return date/time of the last current activity.
<ForwardTo>	String	Extension is forward to a number. (This feature is not supported by all pbx'es).
</FieldNames>		
<Subscribers>		Array of subscribers.
<Subscriber>		Subscriber data.
<CMGid>	String	Record id for the user record (used as key when using other methods).
<LastName>	String	Last name.
<FirstName>	String	First name.
<ClassifiedTelno>	Boolean	Indicates if the phone number is classified (secret).
<Telno>	String	Phone number.
<ClassifiedCordless>	Boolean	Indicates if the cordless number is classified (secret).
<Cordless>	String	Cordless phone number.
<CustGrp>	Integer	Customer group (1-999).
<OrgName>	String	Organization name (hierarchic organization mode).
<Org1>	String	Organization field 1 (hierarchic organization mode).
<Org2>	String	Organization field 2 (hierarchic organization mode).
<Div>	String	Division (compatible organization mode).
<Dep1>	String	Department field 1 (compatible organization mode).
<Dep2>	String	Department field 2 (compatible organization mode).
<lcp1>	String	Intercept position 1.
<lcp2>	String	Intercept position 2.
<MiscFields>		Array of miscellaneous fields (Customer specific fields).
<MiscNumber>	String	Miscellaneous field number (1 – 30).

PARAMETER	TYPE	DESCRIPTION
<Data>	String	Miscellaneous field data.
</MicsFields>		
<Subject>	String	Subject separated by comma E.g. CWI,CMG. (Only valid if subject is part of the search criteria).
<Sign>	String	Operator signature.
<Absent>	Boolean	Absent according to an activity.
<Forward>	Boolean	Extension is forwarded according to an activity.
<Reason>	String	Current reason text (translated to requested language) Note! This information is not reliable if there are several ongoing activities.
<ReturnDateTime>	String	Return date/time of the last current activity.
<BasicForwarding>	Boolean	Indicates if the user has an active basic forwarding.
<IcpType>	Integer	0 = No forwarding 1 = Forwarded to attendant 2 = Forwarded to IVR 3 = Forwarded to Voice mail 4 = Forwarded to other extension 5 = Forwarded to cordless 6 = Forwarded to a number defined in one of the fields Icp1, Misc 1-30.
<ForwardTo>	String	E.g. Mobile, Operator, Voicemail.
<PbxId>	String	Pbx identity (1-99).
</Subscriber>		
</Subscribers>		

2.2 GETUSERINFORMATIONBYID

Web service: CMGUserService

This method is used to get CMG user data from the CMG user database. The user id is used as search key. This method returns the complete user record.

2.2.1 REQUEST PARAMETERS <COMMONHEADER>

PARAMETER	TYPE	DESCRIPTION
<AnaToken>	String	Access token that is returned from the AnA service. This token holds database access information and user roles.
<Application>	String	Application name. This parameter makes it possible to have different sections for different applications in the layout table in the database. Used for hiding specific fields for an application using the CWI service. Example: CWI_GetUserInfoById_CMGMobile_form
<CompanyView>	String	Not implemented

2.2.2 REQUEST PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<RecordId>	String	The record id of the selected user record.
<OfficeSubjectsOnly>	Boolean	True = Only show subjects that are CMG office enabled.
<ShowInfoActivity>	Boolean	Indicates if information activity should be shown.
<GetFieldNames>	Integer	0 = Do not get the field names. 1 = Get translated field names and subscriber data from the CMG system. 2 = Only get the translated field names from the CMG system (used for application initialisation).
<TZOffset>	Integer	Time zone Offset in minutes. (For new designs use the TZid parameter instead since TZid also support daylight saving).
<TZId>	Integer	Time Zone Id. Pass the response value from the Login method response value 'TimeZone' to convert date and time to the users configured time zone.
<Lang>	String	Specifies language (The field names and date/time data converts to selected language. See Appendix 1 for valid language codes.
<ApplicationName>	String	Name of the application using this service (used for error logging).
<AdvShowfields>	String	Not implemented.

2.2.3 RESPONSE PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<CMGStatus>		CMG status block.
<DbId>	Integer	Database Identity (E.g. Nice02 -> DbId = 2).

PARAMETER	TYPE	DESCRIPTION
<ErrCode>	Long	Error code generated by the CMG system. (0 = OK).
<ErrDescription>	String	Error Description.
</CMGStatus>		
<FieldNames>		CMG field names (translated to requested language).
<LastName>	String	Last name.
<FirstName>	String	First name.
<Telno>	String	Phone number.
<Cordless>	String	Cordless number.
<OrgName>	String	Organization name (hierarchic organization mode).
<Org1>	String	Organization field 1 (hierarchic organization mode).
<Org2>	String	Organization field 2 (hierarchic organization mode).
<Div>	String	Division (compatible organization mode).
<Dep1>	String	Department field 1 (compatible organization mode).
<Dep2>	String	Department field 2 (compatible organization mode).
<lcp1>	String	Intercept position 1.
<lcp2>	String	Intercept position 2.
<MiscFields>		Start of array of miscellaneous fields (Customer specific fields).
<MiscNumber>	String	Miscellaneous field number (1 – 30).
<Name>	String	Miscellaneous field name.
</MicsFields>		End of array.
<Sign>	String	Operator signature.
<Reason>	String	Activity reason.
<ReturnDateTime>	String	Return date/time of the last current activity.
<ForwardTo>	String	Extension is forward to:
<Subjects>	String	Subjects.
<DeliveryChannels>	String	Array of Delivery channels (Channel info).
<ChannelNumber>	Integer	Channel number.
<Name>	String	Channel name.
<Type>	Integer	Channel type: 2 = E-mail 3 = Paging system
</DeliveryChannels>		
</FieldNames>		
<Subscriber>		User data.

PARAMETER	TYPE	DESCRIPTION
<CMGid>	String	Record id for the user record (used as key when using other methods).
<ModDateTime>	String	Date and time of last modification. Format: 20120126 15:40:29.
<LastName>	String	Last name.
<FirstName>	String	FirstName.
<ClassifiedTelno>	Boolean	Indicates if the phone number is classified (secret).
<Telno>	String	Phone number.
<TelnoPri>	String	Telno priority for a shared extension. (E.g. Main Record -> TelnoPri = 1).
<PbxId>	String	Pbx identity (1-99).
<ClassifiedCordless>	Boolean	Indicates if the cordless number is classified (secret).
<Cordless>	String	Cordless phone number.
<CustGrp>	Integer	Customer group (1-999).
<OrgName>	String	Organization name (hierarchic organization mode).
<Org1>	String	Organization field 1 (hierarchic organization mode).
<Org2>	String	Organization field 2 (hierarchic organization mode).
<Div>	String	Division (compatible organization mode).
<Dep1>	String	Department field 1 (compatible organization mode).
<Dep2>	String	Department field 2 (compatible organization mode).
<lcp1>	String	Intercept position 1.
<lcp2>	String	Intercept position 2.
<TimeZone>	String	Time zone identity. (E.g. Sweden = 95).
<ShowList>	Boolean	Indicates if the user is visible in the Directory Manager lists.
<OfficeSearch>	Boolean	Indicates if the user is visible in CMG Web.
<MiscFields>		Start of array of miscellaneous fields (Customer specific fields).
<MiscNumber>	String	Miscellaneous field number (1 – 30).
<Data>	String	Miscellaneous field data.
</MicsFields>		End of array.
<Organisations>		Start of array of organizations that the user belongs to.
<Orgname>	String	Organization name (hierarchic organization mode).
<Org1>	String	Organization field 1 (hierarchic organization mode).
<Org2>	String	Organization field 2 (hierarchic organization mode).
<OrgPrio>	Integer	Organization priority within the organization.
<OrgPath>	String	Organization path (E.g. Marketing\Global).
</Organisations>		End of array.

PARAMETER	TYPE	DESCRIPTION
<Sign>	String	Operator signature.
<Absent>	Boolean	Absent according to an activity.
<Forward>	Boolean	Extension is forwarded according to an activity.
<Reason>	String	Current reason text (translated to requested language). Note! This information is not reliable if there are several ongoing activities
<ReturnDateTime>	String	Return date/time of the last current activity.
<BasicForwarding>	Boolean	Indicates if the user has an active basic forwarding.
<lcpType>	Integer	0 = No forwarding 1 = Forwarded to attendant 2 = Forwarded to IVR 3 = Forwarded to Voice mail 4 = Forwarded to other extension 5 = Forwarded to cordless 6 = Forwarded to a number defined in one of the fields lcp1, Misc 1-30
<ForwardTo>	String	E.g. Mobile, Operator, Voicemail.....
<Subjects>		Start of array of subjects.
<string>	String	Subject 1.
<string>	String	Subject n.
</Subjects>		End of array.
<AltNames>		Array of alternative names.
<LastName>	String	Last name.
<FirstName>	String	First name.
<UseInList>	Boolean	Use alternative names in lists.
</AltNames>		
<DeliveryChannels>		Start of array of Delivery channels (subscriber data).
<ChannelNumber>	Integer	Channel number.
<Address>	String	Address (e.g. e-mail address or cordless number).
<Classified>	Boolean	Indicates if the address is classified (secret).
<Position>	Integer	Position/Priority of the delivery channel.
</DeliveryChannels>		End of array.
<VoiceMail >	Boolean	Indicates if the user has CMG Speech Voice Mail access and license.
<IVR>	Boolean	Indicates if the user has CMG Speech Voice IVR access and license.
<DirectoryEntryOnly>	Boolean	Indicates if the user is a directory entry only, without access to CMG Web
</Subscriber>		End of user data.

2.3 LOGIN

Web service: CMGUserService

This method is used to get the subscriber login information or to change the subscriber password.

2.3.1 REQUEST PARAMETERS <COMMONHEADER>

PARAMETER	TYPE	DESCRIPTION
<AnaToken>	String	Access token that is returned from the AnA service. This token holds database access information and user roles.
<Application>	String	Not used
<CompanyView>	String	Not implemented

2.3.2 REQUEST PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<LoginId>	String	Login identity (e.g. telno).
<Password>	String	CMG subscriber password.
<SetPassword>	Boolean	True = Set a new password.
<NewPassword>	String	New CMG subscriber password
<LoginField>	String	E.g. telno. See Appendix 1 for valid login fields.
<CaseSensitiveLogin>	Boolean	True = Case sensitive password.
<PasswordRequired>	Boolean	True = Password is required.
<Lang>	String	Specifies language, used for error handling only. See Appendix 1 for valid language codes.
<ApplicationName>	String	Name of the application using this service (used for error logging).

2.3.3 RESPONSE PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<CMGStatus>		Start of CMG status block.
<ErrCode>	Long	Error code generated by the CMG system. (0 = OK).
<ErrDescription>	String	Error Description.
</CMGStatus>		End of CMG status block.
<UserInfo>		Subscriber information.
<CMGId>	String	The identity of the logged in subscriber (user).
<LastName>	String	Last name of the logged in subscriber .
<FirstName>	String	First name of the logged in subscriber.
<Secretary>	Boolean	True = the subscriber has secretary rights.
<CustGrp>	Integer	The subscriber customer identity.

PARAMETER	TYPE	DESCRIPTION
<SharedExtension>	Boolean	True = The extension is shared.
<PasswordStatus>	Boolean	True = The password is OK according to the password rules. False = The password is empty or the password is identical to the LoginId or the password length is less than the required length. The password rules are checked if the parameter Extended password security is enabled in CMG Configuration Manager in the section CMG Office Modules. The password length is set by the parameter PwdLength in the same section.
<PasswordChanged>	Boolean	True = The user succeeded to change the password.
<TimeZone>	Integer	The configured time zone setting for the subscriber (time zone identity).
</UserInfo>		

2.4 ADDUSER

Web service: CMGUserService

This method is used to add a subscriber in the CMG database. This method returns the identity of the added subscriber form.

CWI can create an organizational structure (organization tree) based on the added subscriber/user organizational affiliation (OrgPath). See Configuration settings for more information.

2.4.1 REQUEST PARAMETERS <COMMONHEADER>

PARAMETER	TYPE	DESCRIPTION
<AnaToken>	String	Access token that is returned from the AnA service. This token holds database access information and user roles.
<Application>	String	Not used
<CompanyView>	String	Not implemented

2.4.2 REQUEST PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<Params>		
<Lang>	String	Specifies language, used for error handling only. See Appendix 1 for valid language codes.
<ApplicationName>	String	Name of the application using this service (used for error logging).
</Params>		
<theSubscriber>		Subscriber data.
<SubjectsAddUser>		Array of subjects (key words).
<aSubject>		
<SubjData>	String	Subject (key word).
<SubjOffice>	Boolean	True = Subject is exposed to the Office Users.
<SubjOper>	Boolean	True = Subject is exposed to the Operators.
<SubjDir>	Boolean	True = Subject is included in the printed directory.
<SubjInd>	Boolean	True = Subject is included in the special subject section of the printed directory.
<SubjPrio>	Integer	Priority within the subjects (keywords).
</aSubject>		
<aSubject>		Subject n.
- - - - -		
</ aSubject >		
</SubjectsAddUser>		
<MiscFields>		Array of misc. fields.

PARAMETER	TYPE	DESCRIPTION
<aMiscField>		
<MiscNumber>	Integer	Misc. field number (1- 30).
<Data>	String	Misc. field data.
</aMiscField>		
<aMiscField>		Misc. n.
- - - - -		
</aMiscField>		
</MiscFields>		
<FullPaths>		Array of full organization paths.
<aFullPath>		
<OrgPath>	String	Full organization path e.g. Marketing\Global.
<OrgPrio>	Integer	Priority within the organization.
<Org1>	String	If the organization is created, set the Org1 field to this value
<Org2>	String	If the organization is created, set the Org2 field to this value
</aFullPath>		
< aFullPath >		FullPath n.
- - - - -		
</aFullPath >		
</FullPaths>		
<DeliveryChannels>		Array of delivery channels.
<aDeliveryChannel>		
<ChannelNumber>	Integer	Delivery channel number.
<Address>	String	Delivery address.
<Classified>	Boolean	True = Classified message (secret).
<Position>	Integer	Message system position (priority).
</aDeliveryChannel>		
<aDeliveryChannel>		DeliveryChannel n.
- - - - -		
</aDeliveryChannel>		
</DeliveryChannels>		
<LastName>	String	Last name.

PARAMETER	TYPE	DESCRIPTION
<FirstName>	String	First name.
<ClassifiedTelno>	Boolean	Indicates if the phone number is classified (secret).
<Telno>	String	Phone number.
<TelnoPri>	Integer	Telno priority for a shared extension. (E.g. Main Record -> TelnoPri = 1).
<PbxId>	Integer	Pbx identity (1-99).
<lcp1>	String	Intercept position 1.
<ClassifiedCordless>	Boolean	Indicates if the cordless number is classified (secret).
<Cordless>	String	Cordless number.
<CustGrp>	Integer	Customer group(s) (1 – 999)
<Div>	String	Division (compatible organization mode).
<Dep1>	String	Department field 1 (compatible organization mode).
<Dep2>	String	Department field 2 (compatible organization mode).
<DepPri>	Integer	Department priority.
<OfficeSearch>	Boolean	Indicates if the user is visible in the CMG Web.
<ShowList>	Boolean	Indicates if the user is visible in the Directory Manager lists.
<Sign>	String	Application or Operator signature. E.g. CMG Office.
<ClickToDial>	Boolean	Indicates if the user should be allowed to use the click-to-dial feature
<VoiceMail >	Boolean	Indicates if the user should have CMG Speech Voice Mail access
<IVR>	Boolean	Indicates if the user should have CMG Speech Voice IVR access
<DirectoryEntryOnly>	Boolean	Indicates if the user should be added as a directory entry only. If not set, the user will be given access to CMG Web as well.
<theSubscriber>		

2.4.3 RESPONSE PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<CMGStatus>		Start of CMG status block.
<ErrCode>	Long	Error code generated by the CMG system. (0 = OK).
<ErrDescription>	String	Error Description.
</CMGStatus>		End of CMG status block.
<Subscriber>		Subscriber information.
<CMGId>	String	The identity of the logged in subscriber (user).

PARAMETER	TYPE	DESCRIPTION
</Subscriber>		

2.5 UPDUSER

Web service: CMGUserService

This method is used to update a subscriber in the CMG database. The user id is used as the search key. This method returns "_SUB_UPDATED_" if the subscriber is successfully updated.

2.5.1 REQUEST PARAMETERS <COMMONHEADER>

PARAMETER	TYPE	DESCRIPTION
<AnaToken>	String	Access token that is returned from the AnA service. This token holds database access information and user roles.
<Application>	String	Not used
<CompanyView>	String	Not implemented

2.5.2 REQUEST PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<Params>		
<CMGId>	String	Search key, subscriber id (user Id).
<ModDateTime>	String	Pass date and time to enable the concurrency check. Format: 20131016 15:40:29. Pass empty string to disable the concurrency check.
<Lang>	String	Specifies language, used for error handling only. See Appendix 1 for valid language codes.
<ApplicationName>	String	Name of the application using this service (used for error logging).
</Params>		
<theSubscriber>		Subscriber data.
<SubjectsUpdUser>		Array of subjects (key words).
<aSubject>		
<SubjAction>	Boolean	"ADD" subject or "DELETE" subject.
<SubjData>	String	Subject (key word).
<SubjOffice>	Boolean	True = Subject is exposed to the Office Users.
<SubjOper>	Boolean	True = Subject is exposed to the Operators.
<SubjDir>	Boolean	True = Subject is included in the printed directory.
<SubjInd>	Boolean	True = Subject is included in the special subject section of the printed directory.
<SubjPrio>	Integer	Priority within the subjects (keywords).
</aSubject>		
<aSubject>		Subject n.

</ aSubject >		

PARAMETER	TYPE	DESCRIPTION
</SubjectsAddUser>		
<MiscFields>		Array of misc. fields.
<aMiscField>		
<MiscNumber>	Integer	Misc. field number (1- 30).
<Data>	String	Misc. field data.
</aMiscField>		
<aMiscField>		Misc. n.

</aMiscField>		
</MiscFields>		
<FullPaths>		Array of full organization paths.
<aFullPath>		
<OrgPath>	String	Full organization path e.g. Marketing\Global.
<OrgPrio>	Integer	Priority within the organization.
<Org1>	String	If the organization is created, set the Org1 field to this value
<Org2>	String	If the organization is created, set the Org2 field to this value
</aFullPath>		
< aFullPath >		FullPath n.

</aFullPath >		
</FullPaths>		
<DeliveryChannels>		Array of delivery channels.
<aDeliveryChannel>		
<ChannelNumber>	Integer	Delivery channel number.
<Address>	String	Delivery address.
<Classified>	Boolean	True = Classified message (secret).
<Position>	Integer	Message system position (priority).
</aDeliveryChannel>		
DeliveryChannel n.		
<aDeliveryChannel>		

</aDeliveryChannel>		

PARAMETER	TYPE	DESCRIPTION
</DeliveryChannels>		
<LastName>	String	Last name. Pass “–1” to keep the previous value.
<FirstName>	String	First name. Pass “–1” to keep the previous value.
<ClassifiedTelno>	Integer	Indicates if the phone number is classified (secret). Pass –1 to keep the previous value.
<Telno>	String	Phone number. Pass “–1” to keep the previous value.
<TelnoPri>	Integer	Telno priority for a shared extension. (E.g. Main Record -> TelnoPri = 1). Pass –1 to keep the previous value.
<PbxId>	Integer	Pbx identity (1-99). Pass –1 to keep the previous value.
<Icp1>	String	Intercept position 1. Pass “–1” to keep the previous value.
<ClassifiedCordless>	Integer	Indicates if the cordless number is classified (secret). Pass –1 to keep the previous value.
<Cordless>	String	Cordless number. Pass “–1” to keep the previous value.
<CustGrp>	Integer	Customer group(s) (1 – 999) Pass –1 to keep the previous value.
<Div>	String	Division (compatible organization mode). Pass “–1” to keep the previous value.
<Dep1>	String	Department field 1 (compatible organization mode). Pass “–1” to keep the previous value.
<Dep2>	String	Department field 2 (compatible organization mode). Pass “–1” to keep the previous value.
<DepPri>	Integer	Department priority. Pass –1 to keep the previous value.
<OfficeSearch>	Integer	Indicates if the user is visible in the CMG Web. Pass –1 to keep the previous value.
<ShowList>	Integer	Indicates if the user is visible in the Directory Manager lists. Pass –1 to keep the previous value.
<Sign>	String	Application or Operator signature. E.g. CMG Web. Pass “–1” to keep the previous value.
<ClickToDial>	Boolean	Indicates if the user should be allowed to use the click-to- dial feature
<VoiceMail >	Boolean	Indicates if the user should have CMG Speech Voice Mail access
<IVR>	Boolean	Indicates if the user should have CMG Speech Voice IVR access
<DirectoryEntryOnly>	Boolean	Indicates if the user should be added as a directory entry only. If not set, the user will be given access to CMG

PARAMETER	TYPE	DESCRIPTION
		Web as well.
		Note! In order to set or keep the CMG Web license check box value by <DirectoryEntryOnly> set to false , then the parameter <Telno> must be included in the UPDUSER method and the value cannot be set to -1. The extension number string value must be included.
</theSubscriber>		

2.6 DELUSER

Web service: CMGUserService

This method is used to delete a subscriber in the CMG database. The user id is used as the search key. This method returns "_SUB_DELETED_" if the subscriber is successfully deleted.

2.6.1 REQUEST PARAMETERS <COMMONHEADER>

PARAMETER	TYPE	DESCRIPTION
<AnaToken>	String	Access token that is returned from the AnA service. This token holds database access information and user roles.
<Application>	String	Not used
<CompanyView>	String	Not implemented

2.6.2 REQUEST PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<CMGId>	String	Search key, subscriber id (user Id).
<ModDateTime>	String	Pass date and time to enable the concurrency check. Format: 20131016 15:40:29. Pass empty string to disable the concurrency check.
<Lang>	String	Specifies language, used for error handling only. See Appendix 1 for valid language codes.
<ApplicationName>	String	Name of the application using this service (used for error logging).

2.6.3 RESPONSE PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<CMGStatus>		Start of CMG status block.
<ErrCode>	Long	Error code generated by the CMG system. (0 = OK).
<ErrDescription>	String	Error Description.
</CMGStatus>		End of CMG status block.
<Subscriber>		Subscriber information.

<SubscriberStatus>	String	Subscriber status = “_SUB_DELETED_” if the subscriber is successfully deleted.
</Subscriber>		

2.7 NEWMESSAGE

Web service: CMGUserService

This method is used to add a CMG user message in the CMG database. The subscriber user id is internally used as main search key. This method returns the identity of the message.

2.7.1 REQUEST PARAMETERS <COMMONHEADER>

PARAMETER	TYPE	DESCRIPTION
<AnaToken>	String	Access token that is returned from the AnA service. This token holds database access information and user roles.
<Application>	String	Not used
<CompanyView>	String	Not implemented

2.7.2 REQUEST PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<Params>		
<SearchKey>	String	The key field is used to find the owner of the activities. Set "CMGId" since this is the only key implemented in this version.
<KeyValue>	String	Key Value (CMGId e.g. 2239). The message originator CMGId. Only used for external messages. See parameter <MessageRange>.
<MessageType>	String	Message types "SMS" or "MAIL"
<MessageRange>	String	Message range. "INTERNAL" -> only send message to CMG subscribers. The address will be used as the search key to locate the message receiver and the message channel to be used. Message type "EXTERNAL" -> send message to users that not are in the CMG database.
<MessageChannel>	Integer	Message channel. Only used in the "EXTERNAL" mode. See parameter <MessageRange>.
<InputDateFormat>	Integer	Defines the short form format of date and time. The current date and time is added to the message. 1 = Swedish yymmdd hhmm 2 = European ddmmyy hhmm 3 = US mmddyy hhmm This parameter is ignored if long date format is used. E.g. 2012-12-29 09:00.
<Lang>	String	Specifies language, used for error handling only. See Appendix 1 for valid language codes.
<ApplicationName>	String	Name of the application using this service (used for error logging).
</Params>		
<theMessage>		

PARAMETER	TYPE	DESCRIPTION
<Subject>	String	Subject
<Message>	String	Message
<Address>	String	Message Address
<SentFromUser>	String	User that sent the message
<Sign>	String	Signature e.g. CMG Web
</theMessage>		

2.7.3 RESPONSE PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<CMGStatus>		Start of CMG status block.
<ErrCode>	Long	Error code generated by the CMG system. (0 = OK).
<ErrDescription>	String	Error Description.
</CMGStatus>		End of CMG status block.
<Message>		Subscriber information.
<MessageId>	String	The identity of the new message.
</Subscriber>		

2.8 GETACTIVITYINFORMATIONBYUSERID

Web service: CMGActivityService

This method is used to get CMG user activities or recurring activities from the CMG database. The user id is internally used as main search key. This method returns an array of activities for the selected user.

2.8.1 REQUEST PARAMETERS <COMMONHEADER>

PARAMETER	TYPE	DESCRIPTION
<AnaToken>	String	Access token that is returned from the AnA service. This token holds database access information and user roles.
<Application>	String	Application name. This parameter makes it possible to have different sections for different applications in the layout table in the database. Used for hiding specific fields for an application using the CWI service. (E.g. CWI_ActivityById_form).
<CompanyView>	String	Not implemented

2.8.2 REQUEST PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<SearchKey>	String	The key field is used to find the owner of the activities. Use "CMGId" since this is the only key implemented in this version.
<KeyValue>	String	Key Value (CMGId e.g. 2239).
<ExternalID>	String	Used to find specific activities that match this value and the KeyValue. Normally used in calendar integrations. Note! When external id is used as search criteria then the parameters Source, Sign and TodaysActivitiesOnly are ignored.
<Source>	String	Used to find specific activities that match this value and the KeyValue. The Source stands for an application type (e.g., 6 for calendar integrations). Note! If Source and Sign are defined then both have to match to find the requested activity/activities.
<Sign>	String	Used to find specific activities that match with this value and the KeyValue. The Signature stands for an application or an operator (e.g., CMGOffice for CMGOffice). Note! If Source and Sign are defined then both have to match to find the requested activity/activities.
<IncludeRedirect>	Boolean	True = Get redirect information. If the extension is redirected then the redirect information will be found in an activity with reason code = 30 (Info message).
<TodaysActivitiesOnly>	Boolean	True = Only show today's activities.

PARAMETER	TYPE	DESCRIPTION
<GetFieldNames>	Integer	0 = Do not get the field names. 1 = Get translated field names and subscriber data from the CMG system. 2 = Only get the translated field names from the CMG system (used for application initialisation).
<TZOffset>	Integer	Time zone Offset in minutes. (For new designs use the TZid parameter instead since TZid also supports daylight saving.)
<TZid>	Integer	Time Zone Id. Pass the response value from the Login method response value 'TimeZone' to convert date and time to the users configured time zone.
<Lang>	String	Specifies language (The field names and date/time data are converted to selected language). See Appendix 1 for valid language codes.
<ApplicationName>	String	Name of the application using this service (used for error logging).

2.8.3 RESPONSE PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<CMGStatus>		CMG status block.
<ErrCode>	Long	Error code generated by the CMG system. (0 = OK).
<ErrDescription>	String	Error Description.
</CMGStatus>		
<FieldNames>		CMG field names (translated to requested language).
<Reason>	String	Reason text.
<FromDateTime>	String	From date time.
<ToDateTime>	String	To date time.
<ForwardTo>	String	Forward to.
<Icp>	String	Number.
<Reftext>	String	Information.
<Sign>	String	Signature.
</FieldNames>		
<Activities>		Array of activities.
<Activity>		Activity data.
<CMGActivityId>	String	Record id for the activity record (used as key when using other methods).
<Reason>	String	The activity reason text translated to selected language.
<FromDateTime>	String	Defines when the activity starts. Translated to a valid date/time format according to the selected language.
<ToDateTime>	String	Defines when the activity ends. Translated to a valid date/time format according to the selected language.
<Absent>	Boolean	0 = Inactive

PARAMETER	TYPE	DESCRIPTION
		1 = Active
<Forward>	Boolean	This parameter defines if the activity is routing incoming calls. 0 = Do not route 1 = The incoming call is routed to another number
<BasicForwrding>	Boolean	Indicates if the user has an active basic forwarding.
<lcpType>	Integer	0 = No forwarding 1 = Forwarded to attendant 2 = Forwarded to IVR 3 = Forwarded to Voice mail 4 = Forwarded to other extension 5 = Forwarded to cordless 6 = Forwarded to a number defined in one of the fields lcp1, Misc 1-30
<ForwardTo>	String	Routing information translated to selected language.
<lcp>	String	Routing number.
<ClassifiedReftext>	Boolean	0 = The activity message text (Reftext) is not classified. 1 = The activity message text (Reftext) is classified. (Message text is not shown for CMG Office users).
<Reftext>	String	Message text (additional activity information).
<Sign>	String	Application or Operator signature. E.g. CMG Office.
<GroupActivity>	Boolean	This activity as part of a group of activities. Not valid for recurring activities.
<ModDateTime>	String	Date and time of last modification. Format: 20120126 15:40:29
</Activity>		
<Activity>		Activity data.

</Activity>		
</Activities>		

2.9 GETACTIVITYINFORMATIONBYACTIVITYID

Web service: CMGActivityService

This method is used to get a CMG user activity or a recurring activity from the CMG database. The activity id is used as search key. This method returns the selected activity.

2.9.1 REQUEST PARAMETERS <COMMONHEADER>

PARAMETER	TYPE	DESCRIPTION
<AnaToken>	String	Access token that is returned from the AnA service. This token holds database access information and user roles.
<Application>	String	Application name. This parameter makes it possible to have different sections for different applications in the layout table in the database. Used for hiding specific fields for an application using the CWI service. (E.g. CWI_ActivityById_form).
<CompanyView>	String	Not implemented

2.9.2 REQUEST PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<CMGActivityId>	String	Record id for the requested activity record.
<GetFieldNames>	Integer	0 = Do not get the field names. 1 = Get translated field names and subscriber data from the CMG system. 2 = Only get the translated field names from the CMG system (used for application initialisation).
<GetReasonText>	Boolean	True = Translate reason code to language specific text.
<TZOffset>	Integer	Time zone Offset in minutes. (For new designs use the TZid parameter instead since TZid also support daylight saving).
<TZId>	Integer	Time Zone Id. Pass the response value from the Login method response value 'TimeZone' to convert date and time to the users configured time zone.
<Lang>	String	Specifies language (The field names and date/time data are converted to selected language). See Appendix 1 for valid language codes.
<ApplicationName>	String	Name of the application using this service (used for error logging).

2.9.3 RESPONSE PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<CMGStatus>		CMG status block.
<ErrCode>	Long	Error code generated by the CMG system. (0 = OK).
<ErrDescription>	String	Error Description.
</CMGStatus>		

PARAMETER	TYPE	DESCRIPTION
<FieldNames>		
<Reason>	String	Reason text.
<FromDateTime>	String	From date time.
<ToDateTime>	String	To date time.
<ForwardTo>	String	Forward to.
<Icp>	String	Number.
<Reftext>	String	Information.
<Sign>	String	Signature.
</FieldNames>		
<Activity>		
<Reason>	String	The activity reason text translated to selected language.
<FromDateTime>	String	Defines when the activity starts. Translated to a valid date/time format according to the selected language.
<ToDateTime>	String	Defines when the activity ends. Translated to a valid date/time format according to the selected language.
<Absent>	Boolean	0 = Inactive 1 = Active
<Forward>	Boolean	This parameter defines if the activity is routing incoming calls: 0 = Do not route 1 = The incoming call is routed to another number
<IcpType>	Integer	0 = No forwarding 1 = Forwarded to attendant 2 = Forwarded to IVR 3 = Forwarded to Voice mail 4 = Forwarded to other extension 5 = Forwarded to cordless 6 = Forwarded to a number defined in one of the fields Icp1, Misc 1-30
<ForwardTo>	String	Routing information translated to selected language.
<Icp>	String	Routing number.
<ClassifiedReftext>	Boolean	0 = The activity message text (Reftext) is not classified. 1 = The activity message text (Reftext) is classified. (Message text is not shown for CMG Office users).
<Reftext>	String	Message text (additional activity information).
<Sign>	String	Application or Operator signature. E.g. CMG Office.
<GroupActivity>	Boolean	This activity as part of a group of activities.
<ModDateTime>	String	Date and time of last modification. Format: 20120126 15:40:29.
</Activity>		

2.10 NEWACTIVITY

Web service: CMGActivityService

This method is used to add a new user activity or a recurring activity in the CMG database. The user id is internally used as main search key. This method returns the identity of the added activity.

This method can also be used to add InConference sessions, which are scheduled using CMG activities with Reason set to 29.

2.10.1 REQUEST PARAMETERS <COMMONHEADER>

PARAMETER	TYPE	DESCRIPTION
<AnaToken>	String	Access token that is returned from the AnA service. This token holds database access information and user roles.
<Application>	String	Not used.
<CompanyView>	String	Not implemented

2.10.2 REQUEST PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<Params>		Parameters.
<SearchKey>	String	The key field is used to find the owner of the activity. Use "CMGId" since this is the only key implemented in this version.
<KeyValue>	String	Key Value (CMGId e.g. 2239).
<InputDateFormat>	Integer	Defines the short form format of FromDateTime and ToDateTime: 1 = Swedish yymmdd hhmm 2 = European ddmmyy hhmm 3 = US mmddyy hhmm This parameter is ignored if long date format is used (e.g., 2012-12-29 09:00).
<TZOffset>	Integer	Time zone Offset in minutes. (For new designs use the TZid parameter instead since TZid also support daylight saving).
<TZId>	Integer	Time Zone Id. Pass the response value from the Login method response value 'TimeZone' to convert date and time to the users configured time zone.
<Lang>	String	Specifies language, used for error handling only. See Appendix 1 for valid language codes.
<ApplicationName>	String	Name of the application using this service (used for error logging).
</Params>		
<theActivity>		Activity data.
<Reason>	Integer	The activity reason code. These codes are defined in the CMG system.

PARAMETER	TYPE	DESCRIPTION
<Forward>	Boolean	<p>This parameter defines if the activity should route incoming calls:</p> <p>0 = Do not route (Profiles are disabled).</p> <p>1 = Route calls according to the active profile.</p> <p>Note! This parameter is ignored if the CMG activity profile is set to “No forwarding” for the selected reason code.</p>
<lcp>	String	<p>Routing number (overrides the activity profile).</p> <p>This parameter is used to route incoming calls to a specific number. This feature can only be used if the PABX support dynamic routing.</p>
<Sesam>	Boolean	<p>0 = Keep the routing when the activity period ends.</p> <p>1 = Disable routing when the activity period ends.</p>
<FromDateTime>	String	<p>Defines when the activity starts. For format description see the <InputDateFormat> parameter.</p> <p>Set this field to “NOW” to get actual time from the database server (used to handle time differences between client and server).</p>
<ToDateTime>	String	<p>Defines when the activity ends. For format description see the <InputDateFormat> parameter.</p>
<ClassifiedReftext>	Boolean	<p>0 = The activity message text (Reftext) is not classified.</p> <p>1 = The activity message text (Reftext) is classified. (Message text is not shown for CMG Office users).</p>
<Reftext>	String	<p>Message text (additional activity information).</p>
<ExternalId>	String	<p>External Id (E.g. appointment id).</p> <p>This parameter identifies the activity. This id can be used to put a unique identifier on the activity/activities.</p>
<Source>	Integer	<p>Application type identifier.</p> <p>Valid identifiers are:</p> <p>0 = Switchboard operator</p> <p>1 = Phone</p> <p>2 = Recurring activity</p> <p>3 = Access systems</p> <p>4 = Quick</p> <p>5 = Memo (Mail)</p> <p>6 = Calendar</p> <p>7 = CMG Office</p>
<Sign>	String	<p>Application or Operator signature (e.g. Calendar).</p>
<ProfileId>	Integer	<p>Set to 0 if the triggers are supposed to select an appropriate profile depending on the reason code.</p> <p>Set profile id to select a particular profile to be used by the triggers.</p>
</theActivity>		

2.10.3 RESPONSE PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<CMGStatus>		
<ErrCode>	Long	Error code generated by the CMG system. (0 = OK).
<ErrDescription>	String	Error Description.
</CMGStatus>		
<Activity>		
<ActivityId>	String	The identity of the new activity.
</Activity>		

2.11 UPDACTIVITY

Web service: CMGActivityService

This method is used to update a user activity or a recurring activity in the CMG database. The activity id is used as key. This method returns "_IRC_UPDATED_" if the activity is successfully updated.

2.11.1 REQUEST PARAMETERS <COMMONHEADER>

PARAMETER	TYPE	DESCRIPTION
<AnaToken>	String	Access token that is returned from the AnA service. This token holds database access information and user roles.
<Application>	String	Not used.
<CompanyView>	String	Not implemented.

2.11.2 REQUEST PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<Params>		Parameters.
<ActivityId>	String	Identity of the activity that shall be updated.
<InputDateFormat>	Integer	Defines the short form format of FromDateTime and ToDateTime: 1 = Swedish yymmdd hhmm 2 = European ddmmyy hhmm (0 = US mmddyy hhmm) This parameter is ignored if long date format is used (e.g., 2012-12-29 09:00).
<ModDateTime>	String	Pass date and time to enable the concurrency check. Format: 20120126 15:40:29. Pass empty string to disable the concurrency check.
<TZOffset>	Integer	Time zone Offset in minutes. (For new designs use the TZid parameter instead since TZid also support daylight saving).
<TZId>	Integer	Time Zone Id. Pass the response value from the Login method response value 'TimeZone' to convert date and time to the users configured time zone.
<Lang>	String	Specifies language, used for error handling only. See Appendix 1 for valid language codes.
<ApplicationName>	String	Name of the application using this service (used for error logging).
</Params>		
<theActivity>		Activity data.
<Reason>	Integer	The activity reason code. (These codes are defined in the CMG system). Pass -1 to keep the previous value.

<Forward>	Integer	<p>This parameter defines if the activity should route incoming calls: 0 = Do not route 1 = Route calls according to the active profile</p> <p>Note! This parameter is ignored if the CMG activity profile is set to “No forwarding” for the selected reason code. Pass –1 to keep the previous value.</p>
<Icp>	String	<p>Routing number. This parameter is used to route incoming calls to a specific number. This feature can only be used if the PABX support dynamic routing. Pass “–1” to keep the previous value.</p>
<Sesam>	Integer	<p>0 = Keep the routing when the activity period ends. 1 = Disable routing when the activity period ends. Pass –1 to keep the previous value.</p>
<FromDateTime>	String	<p>Defines when the activity starts. For format description see the <InputDateFormat> parameter. Pass empty string to get default value (1900-01-01 00:00).</p>
<ToDateTime>	String	<p>Defines when the activity ends. For format description see the <InputDateFormat> parameter. Pass empty string to set 'UFN' (Until further notice).</p>
<ClassifiedReftext>	Integer	<p>0 = The activity message text (Reftext) is not classified. 1 = The activity message text (Reftext) is classified. (Message text is not shown for CMG Office users). Pass –1 to keep the previous value.</p>
<Reftext>	String	<p>Message text (additional activity information). Pass “–1” to keep the previous value.</p>
<ExternalId>	String	<p>External Id (e.g. calendar appointment id). This parameter identifies the activity. This id can be used to put a unique identifier on the activity/activities. Pass “–1” to keep the previous value.</p>
<Source>	Integer	<p>Application type identifier. Valid identifiers are: 0 = Switchboard operator 1 = Phone 2 = Recurring activity 3 = Access systems 4 = Quick 5 = Memo (Mail) 6 = Calendar 7 = CMG Office</p> <p>–1 to keep the previous value.</p>
<Sign>	String	<p>Application or Operator signature. E.g. Calendar. Pass “–1” to keep the previous value.</p>

<ProfileId>	Integer	Set to 0 if the triggers are supposed to select an appropriate profile depending on the reason code. Set profile id to select a particular profile to be used by the triggers.
</theActivity>		

2.11.3 RESPONSE PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<CMGStatus>		
<ErrCode>	Long	Error code generated by the CMG system. (0 = OK).
<ErrDescription>	String	Error Description.
</CMGStatus>		
<Activity>		
<ActivityStatus>	String	Activity status = “ _IRC_UPDATED_ ” if the update succeeded.
</Activity>		

2.12 DELACTIVITY

Web service: CMGActivityService

This method is used to delete a user activity in the CMG database. The activity id is used as key. This method returns “_DELETED_” if the activity is successfully deleted.

2.12.1 REQUEST PARAMETERS <COMMONHEADER>

PARAMETER	TYPE	DESCRIPTION
<AnaToken>	String	Access token that is returned from the AnA service. This token holds database access information and user roles.
<Application>	String	Not used.
<CompanyView>	String	Not implemented.

2.12.2 REQUEST PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<SearchKey>	String	The key field is used to find the activity or the owner of the activity. Use “ActivityId” as key since this is the only key implemented in this version.
<KeyValue>	String	Key value (ActivityId e.g. 348984).
<ExternalId>	String	Note! Not implemented in this version. External Id (e.g. appointment id). This parameter identifies the activity/activities that should be deleted. If set to –1 then all activities for the selected user with a specific signature is deleted.
<Sign>	String	Note! Not implemented in this version. Signature (only valid if External Id is set to –1)
<ModDateTime>	String	Pass date and time to enable the concurrency check. Format: 20120126 15:40:29 Pass empty string to disable the concurrency check.
<TZOffset>	Integer	Note! Not implemented in this version.
<TZId>	Integer	Note! Not implemented in this version.
<Lang>	String	Specifies language, used for error handling only. See Appendix 1 for valid language codes.
<ApplicationName>	String	Name of the application using this service (used for error logging).

2.12.3 RESPONSE PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<CMGStatus>		
<ErrCode>	Long	Error code generated by the CMG system. (0 = OK).
<ErrDescription>	String	Error Description.
</CMGStatus>		
<Activity>		
<ActivityStatus>	String	Activity status = “_DELETED_” if the activity is successfully deleted.
</Activity>		

2.13 GETACTIVITYSYSCONF

Web service: CMGActivityService

This method is used to get activity related system configuration from the CMG system.

2.13.1 REQUEST PARAMETERS <COMMONHEADER>

PARAMETER	TYPE	DESCRIPTION
<AnaToken>	String	Access token that is returned from the AnA service. This token holds database access information and user roles.
<Application>	String	Not used.
<CompanyView>	String	Not implemented

2.13.2 REQUEST PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<Category>	String	Reason code category. Valid categories are webcategory or opercategory. webcategory = reason codes used by the CMG Web application. Opercategory = reason codes used by the Now / InAttend application.
<Lang>	String	Language (The reason codes and date/time data are converted to selected language. See Appendix 1 for valid language codes.
<ApplicationName>	String	Name of the application using this service (used for error logging).

2.13.3 RESPONSE PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<CMGStatus>		CMG status block.
<ErrCode>	Long	Error code generated by the CMG system. (0 = OK).
<ErrDescription>	String	Error Description.
</CMGStatus>		
<CommonReasonParams>		
<DefaultFromTime>	String	Default starting time of activities.
<DefaultToTime>	String	Default ending time of activities.
</CommonReasonParams>		
<Reasons>		Array of reasons.
<Reason>		Reason data.
<Code>	Integer	Reason code (0 – 31).
<ReasonText>	String	Language translated reason text.

PARAMETER	TYPE	DESCRIPTION
<DefaultTime>	String	Mxx (E.g. M60 = 60 minutes). NWD = Next Working day. TV = Until further notice.
</Reason>		
</Reasons>		

2.14 GETDBDATETIME

Web service: CMGActivityService

This method is used to get the database servers date and time. As an option the method returns converted date and time according to selected time zone id.

2.14.1 REQUEST PARAMETERS <COMMONHEADER>

PARAMETER	TYPE	DESCRIPTION
<AnaToken>	String	Access token that is returned from the AnA service. This token holds database access information and user roles.
<Application>	String	Not used.
<CompanyView>	String	Not implemented

2.14.2 REQUEST PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<TZId>	Integer	Time Zone Id. Pass the response value from the Login method response value 'TimeZone' to convert client date and time to the users configured time zone.
<Lang>	String	Specifies language, used for error handling only. See Appendix 1 for valid language codes.
<ApplicationName>	String	Name of the application using this service (used for error logging).

2.14.3 RESPONSE PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<CMGStatus>		CMG status block.
<ErrCode>	Long	Error code generated by the CMG system. (0 = OK).
<ErrDescription>	String	Error Description.
</CMGStatus>		
<DateTime>		
<ServerDateTime>	String	Database Server date/time.
<ClientDateTime>	String	Database Server date/time converted to client time.
</DateTime>		

3 ANA WEB SERVICE INTERFACE

Web service: AnAService

GetSSOToken

This method authenticates a user and returns the roles that the user has. If the user is correctly authenticated then a token is sent back. The token should not to be considered to have a specific format it should be passed "blindly" to the SOAP header when accessing the CMG Web service Interface (CWI).

Browsing address *http://CmgServer/NwAna/AnaService.asmx*

3.1 REQUEST PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<username>	String	User name
<password>	String	Password
<userDomain>	String	Normally set to empty string ("").

User name, password and service rights are configured in the CMG Configuration Manager.

3.2 RESPONSE PARAMETERS

PARAMETER	TYPE	DESCRIPTION
<GetSSOTokenResult>	String	SSO token

4 CONFIGURATION SETTINGS

4.1 WEB SERVICE CMGUSERINFORMATIONSERVICE

Configuration file: web.config

(E.g. C:\inetpub\wwwroot\CMGUserInformationService\web.config)

```
<appSettings>
  <add key="CMGUserInformationService.theAnAComputer.AnA"value=
    "http://localhost/NwAnA/AnaService.asmx"/>
  <add key="CMGversion" value="75"/>
  <add key="LoginModeWindows" value="True"/>
  <add key="LocalDBNoAnA" value="False"/>
  <add key="ValidateAnAToken" value="True"/>
  <add key="PrefixAdd" value="False"/>
  <add key="PrefixMaxExtLen" value="5"/>
  <add key="PrefixExternal" value="00"/>
  <add key="PrefixInternational" value="00"/>
  <add key="CreateOrg" value="True"/>
  <add key="DeleteOrg" value="True"/>
  <add key="AddAppNameOrg" value="Created by MP"/>
  <add key="TraceLevel" value="0"/>
  <add key="SpeechProvisioningEnabled" value="False"/>
  <add key="SpeechProvisioningUrl"
    value="http://localhost:8006/Speech/VoiceProvisioningService"/>
</appSettings>
```

4.1.1 PARAMETER DESCRIPTION

PARAMETER	VALUE
CMGUserInformationService.theAnAComputer.AnA"value	http address to the AnA service.
LoginModeWindows	Defines how to login to the SQL Server. If False then a proxy password is used to access the database using SQL login. Normally set to "True".
ValidateAnAToken	If set to "True" then the AnA token will be decrypted and validated to ensure that the token is valid.
PrefixAdd	The Prefix parameters are used to handle prefixes in a multi PBX node environment. Set this parameter to "True" to enable the prefix support.
PrefixMaxExtLen	The maximum length of the internal number. A value of 5 means that the prefix will be added for internal numbers containing a maximum of 5 digits.

PARAMETER	VALUE
PrefixExternal	The outgoing prefix (trunk access code) that needs to be appended for external calls, for example 0 or 9.
PrefixInternational	The international Dialing Code, for example, 00. This prefix replaces the + sign in the dialing strings.
CreateOrg	Set this parameter value to "True" to create organization units that do not exist in CMG. The Added/Updated users "OrgPath" is used to add/update organization in the organization tree.
DeleteOrg	Set this parameter value to "True" to delete organization units that are not in use.
AddAppNameOrg	This parameter value indicates which application that has created the new organization unit, or updated an existing one. E.g. "Created by MP"
TraceLevel	Trace level 0 = no trace, 5 = max trace.
SpeechProvisioningEnabled	If set to "True", provisioning of CMG Speech users will be enabled
SpeechProvisioningUrl	When using CMG Speech user provisioning, this URL specifies the location of the Speech Server.

4.2 WEB SERVICE CMGACTIVITYSERVICE

Configuration file: web.config

(E.g. C:\inetpub\wwwroot\CMGUserInformationService\web.config)

```
<appSettings>
  <add key="CMGActivityService.theAnAComputer.AnA"value=
    "http://localhost/NwAnA/AnaService.asmx"/>
  <add key="CMGversion" value="75"/>
  <add key="LoginModeWindows" value="True"/>
  <add key="LocalDBNoAnA" value="False"/>
  <add key="ValidateAnAToken" value="False"/>
  <add key="TraceLevel" value="4"/>
  <add key="Application Name" value=""/>
</appSettings>
```

4.2.1 PARAMETER DESCRIPTION

PARAMETER	VALUE
CMGActivityService.theAnAComputer.AnA	http address to the AnA service.
LoginModeWindows	Defines how to login to the SQL Server. If False then a proxy password is used to access the database using SQL login. Normally set to "True".

PARAMETER	VALUE
ValidateAnAToken	If set to “True” then the AnA token will be decrypted and validated to ensure that the token is valid.
TraceLevel	Trace level 0 = no trace, 5 = max trace.
ApplicationName	Defines application name using CWI service

5 PROGRAMMING EXAMPLE C#

CWI “Hello search” - Search for a CMG subscriber/user.

The example assumes that the following web service references are added to the project:

- A reference to AnA with the name theAnAService.
- A reference to CWI User Information Service with the name theUserService

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Text;
using System.Windows.Forms;

namespace CWISearch
{
    public partial class CWISearch : Form
    {
        public CWISearch()
        {
            InitializeComponent();
        }

        private void CWISearch_Load(object sender, EventArgs e)
        {

            // Create an instance of the AnaService
            theAnAService.AnA AnAService = new
            theAnAService.AnA();

            // Create an instance of the CMGUserInformationService
            theUserService.CMGUserService CWIUserService = new
            theUserService.CMGUserService();

            // Get the AnA token that contains the user rights and
            connection information.
            string token = null;
            token = AnAService.GetSSOToken("CWItestUser", "password",

                string.Empty);

            // Apply AnA token the CWIUserService header
            CWIUserService.CommonHeaderValue = new
            theUserService.CommonHeader();
            CWIUserService.CommonHeaderValue.AnAToken = token;

            //Create the input request and the result class
            theUserService.GetUserInfoInput theSearchRequest = new

            theUserService.GetUserInfoInput();
            theUserService.ResultGetUserInfo CMGSearchResult = new

            theUserService.ResultGetUserInfo();
```

```

//Create the search keys
string[] arSearchKeys = new string[3]; //Number of keys
arSearchKeys[0] = "LNAME=Williams";
arSearchKeys[1] = "FNAME=Jessica";
arSearchKeys[2] = "ORGNAME=Marketing";

//Set search properties
//See method GetUserInformatio for parameter details
theSearchRequest.SearchKeys = arSearchKeys;
theSearchRequest.MaxSearchHits = 50;
theSearchRequest.Lang = "ENG";
theSearchRequest.OfficeUsersOnly = true;
theSearchRequest.VisitorsOnly = false;
theSearchRequest.GetFieldNames = 1;
theSearchRequest.TraceLevel = 0;
theSearchRequest.ApplicationName = "CWI search test";
//Used for debugging, must be set

// Search the CMG database
CMGSearchResult =
CWIUserService.GetUserInformation(theSearchRequest);

//Error handling
if (CMGSearchResult.CMGStatus.ErrCode != 0)
{
    MessageBox.Show("Error code: " +
        CMGSearchResult.CMGStatus.ErrCode +
        " Error description:
        CMGSearchResult.CMGStatus.ErrDescription);
    return;
}

if (CMGSearchResult.CMGStatus.NumberOfSearchHits > 0)
{
    MessageBox.Show("Number of search hits: " +
        CMGSearchResult.CMGStatus.NumberOfSearchHits);

    MessageBox.Show(CMGSearchResult.Subscribers[0].FirstN
        ame + " " +
        CMGSearchResult.Subscribers[0].LastName);
}
else
{
    MessageBox.Show("No Search hits");
}
}
}
}

```



Note! This example does not include proper error handling.

6 DICTIONARY

TERM	DESCRIPTION
CMG	Collaboration Management system
CWI	CMG Web Service Interface
AnA	Authorization and Authentication service
ASP	Application Server Provider

7 OBTAINING DOCUMENTATION

Mitel provides www.mitel.com as a starting point for technical assistance regarding all products, including the CMG application suite. From here, partners can obtain online documentation, FAQs, latest software updates and request further technical assistance.

8 REFERENCES

- [1] CMG Server System Process Description
- [2] CMG Installation Guide
- [3] CMG Configuration Guide

9 APPENDIX I - DEFINITION OF LANGUAGE CONSTANTS AND VALID LOGIN FIELDS

9.1 DEFINITION OF LANGUAGE CONSTANTS

ENG	English
SVE	Swedish
DAN	Danish
NOR	Norwegian
FIN	Finnish
DEU	German
FRA	French
BRA	Brazilian Portuguese
ITA	Italian
POR	Portuguese
SPA	Spanish
DUT	Dutch

9.2 DEFINITION OF VALID LOGIN FIELDS

RECORD_ID
MISC1 – MISC30
TELNO
CORDLESS

10 APPENDIX II - DEFINITION OF SEARCH FIELD CONSTANTS

LNAME	Last name
FNAME	First name
TELNO	Phone number
CORDLESS	Cordless / Mobile number
ICP1	Intercept position 1
ICP2	Intercept position 2
ORGNAME	Organization name (hierarchic organization mode)
ORG1	Organization field 1 (hierarchic organization mode)
ORG2	Organization field 2 (hierarchic organization mode)
SUBJECT	Keywords
DESCRIPTION	Organization description (hierarchic organization mode)
DIV	Division (compatible organization mode)
DEP	Department field 1 (compatible organization mode)
DEP2	Department field 2 (compatible organization mode)
PBX_ID	PABX id
MSGID	Message delivery address
DISP	Present (Users with no current activity registered)
DELIVERYCHAN1	Message channel 1
DELIVERYCHAN2	Message channel 2
DELIVERYCHAN3	Message channel 3
DELIVERYCHAN4	Message channel 4
MSGID1	Address field 1 in CMG DM
MSGID2	Address field 2 in CMG DM
MSGID3	Address field 3 in CMG DM
MSGID4	Address field 4 in CMG DM
MISC1 – MISC30	Miscellaneous field 1 - 30 (Customer specific fields)

11 APPENDIX III - CWI SEARCH OPTIONS

The method *GetUserInfo* is used to search for subscribers/users in the CMG database.

The information in this Appendix demonstrates how the search key should be used in different search scenarios.

The method *GetUserInfo* supports AND and OR search. In some cases, it is also possible to mix AND and OR searches. When last name or/and first name is a part of the search criteria, then “nick names” (phonetic) are included in the search. If organization is a part of the search criteria then organization “nick names” will be included in the search.

11.1 AND SEARCH (STANDARD SEARCH)

- Example: Search for first name and last name

Array of search keys

```
arSearchKeys(0) = "FNAME=Jessica"
```

```
arSearchKeys(1) = "LNAME=Williams"
```

- Example: Search for exact phone number match (no wildcard) and organization.

Array of search keys

Underscore (_) is used as exact match indicator.

Star (*) is used as wild card indicator.

```
arSearchKeys(0) = "TELNO_=12345"
```

```
arSearchKeys(1) = "ORGNAME=*Sales"    (ends with Sales...)
```

- Example: Search for last name, organization and three keywords.

Array of search keys

```
arSearchKeys(0) = "LNAME=Bond"
```

```
arSearchKeys(1) = "ORGNAME=MI5"
```

```
arSearchKeys(2) = "SUBJECT=agent,license,secret"    (max four keywords)
```

11.2 OR SEARCH

Only one element in the array is used to perform the OR search.

Semicolon (;) is used as OR indicator.

- Example: Search for Jessica in first name OR in last name OR in phone number.

```
arSearchKeys(0) = "FNAME= Jessica;LNAME= Jessica;TELNO= Jessica"
```

- Example: Search for 12345 in first name OR last name OR phone number.

```
arSearchKeys(0) = "FNAME=12345;LNAME=12345;TELNO=12345"
```


11.3 AND / OR SEARCH

Only one element in the array is used to perform the AND / OR search.

Pipe (|) is used as AND indicator.

Semicolon (;) is used as OR indicator.

Example: *Magic search*, a single text field where the user can enter the search criteria in any order.

Example: two search keys (one search field) e.g. Jessica Williams.

- Search for Jessica in first name AND Williams in last name OR Therese in last name AND Gronqvist in first name.

```
arSearchKeys(0) = "FNAME=Jessica |LNAME=Williams;LNAME=Williams  
AND FNAME = Jessica"
```



Note! Search performance might be affected if the magic search is complex (including many combined search fields).



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