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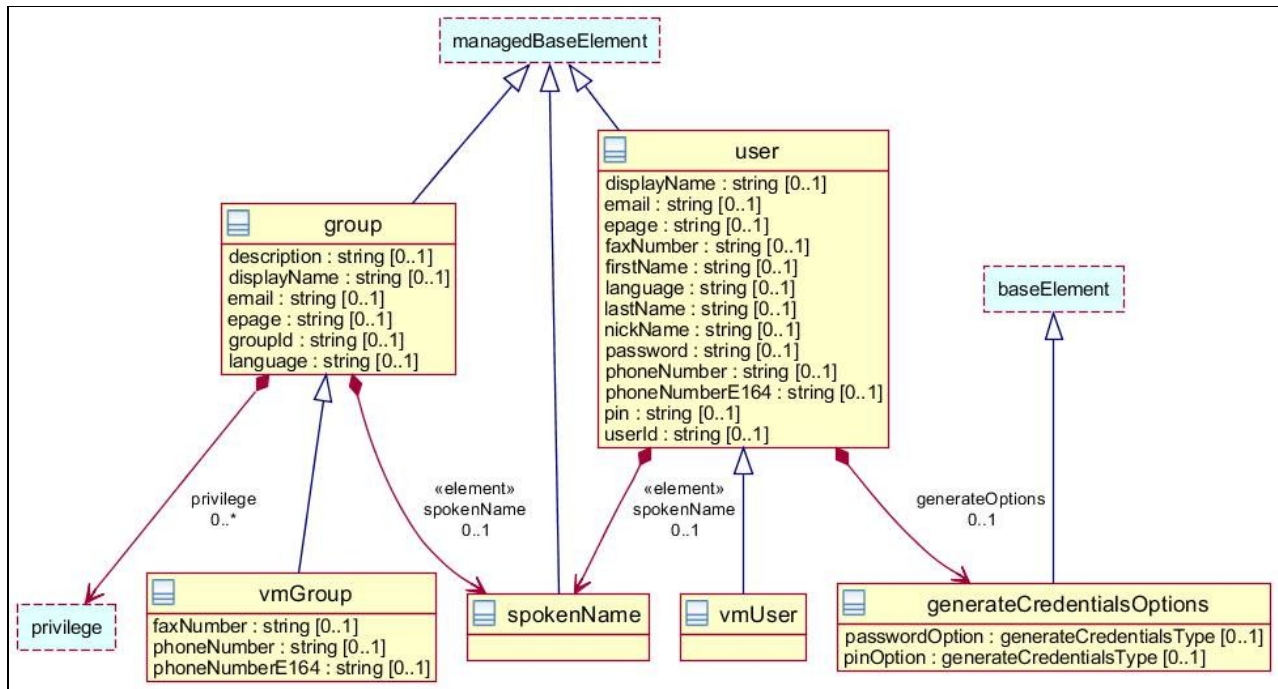
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## User and Group Management

Classes

Figure 5: User and Group Management



User

|                      |                                                     |                                                  |                                                                                                                                                                                                                                                                                                |
|----------------------|-----------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Class Name</b>    | User                                                |                                                  |                                                                                                                                                                                                                                                                                                |
| <b>Extends From</b>  | ManagedBaseElement                                  |                                                  |                                                                                                                                                                                                                                                                                                |
| <b>Description</b>   | This class represents a subscriber in a CUE system. |                                                  |                                                                                                                                                                                                                                                                                                |
| <b>XML Namespace</b> | http://user.model.rest.aesop.cisco.com              |                                                  |                                                                                                                                                                                                                                                                                                |
| <b>Field Name</b>    | <b>Type</b>                                         | <b>Constraints</b>                               | <b>Comments</b>                                                                                                                                                                                                                                                                                |
| userId               | String                                              | Required for POST (create) operation Length 2-31 | Specifies the name or ID of the subscriber to be created. The username must be at least 3 and no more than 32 characters in length. CUE allows only letters, numbers, underscore (_), dot (.), and dash (-) in user IDs. User IDs must start with a letter. Do not use spaces in the username. |
| firstName            | String                                              | Length 0-59                                      | First name of a user. Callers use these names to access the extension using the dial-by-name feature. Cannot contain special characters, spaces, or                                                                                                                                            |

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|                 |                            |                                                                                                                            |                                                                                                                                                                                                                                                                                                            |
|-----------------|----------------------------|----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 |                            |                                                                                                                            | numbers.                                                                                                                                                                                                                                                                                                   |
| lastName        | String                     | Length 0-59                                                                                                                | Last name of a user. Callers use these names to access the extension using the dial-by-name or numbers.                                                                                                                                                                                                    |
| nickName        | String                     | Length 0-59                                                                                                                |                                                                                                                                                                                                                                                                                                            |
| displayName     | String                     | Length 0-59                                                                                                                | User's name displayed within CUE applications.                                                                                                                                                                                                                                                             |
| phoneNumberE164 | String                     | Length 0-15                                                                                                                | Full telephone number, including area code, for the subscriber.                                                                                                                                                                                                                                            |
| phoneNumber     | String                     | Length 0-15                                                                                                                | Extension or number for this subscriber.                                                                                                                                                                                                                                                                   |
| faxNumber       | String                     | Length 0-15                                                                                                                |                                                                                                                                                                                                                                                                                                            |
| password        | String                     | Length 3-32                                                                                                                | Password for the subscriber. Valid values contain at least 3 but not more than 32 characters in length. Spaces are not allowed. Acceptable password characters are lowercase letters a to z, uppercase letters A to Z, digits 0 to 9, and the following symbols: - . + = _ ! @ # \$ ^ * ( ) ? / ~ < > & %. |
| pin             | String                     | Length 3 -16                                                                                                               | Personal identification number for the subscriber. Valid values are at least 3 but not more than 19 characters in length, consisting of letters and numbers. No other characters are permitted.                                                                                                            |
| language        | String                     | Language locale string of the form xx_YY (where xx is the two letter language code and YY is the two letter country code). | Language of the prompts played to the user.                                                                                                                                                                                                                                                                |
| email           | String                     | Length 0 - 320                                                                                                             | Email address of the subscriber.                                                                                                                                                                                                                                                                           |
| epage           | String                     | Length 0 - 320                                                                                                             | Epage address of the subscriber.                                                                                                                                                                                                                                                                           |
| generateOptions | GenerateCredentialsOptions | For write only (To be used only during the POST and PUT                                                                    | Used for specifying options for generating password and pin during create and update operation.                                                                                                                                                                                                            |

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|            |            |               |                                                                   |
|------------|------------|---------------|-------------------------------------------------------------------|
|            |            | operations).  |                                                                   |
| spokenName | SpokenName | For Read only | This field indicates if a spoken name is configured for the user. |

**GenerateCredentialsOptions**

|                      |                                                                                                                    |
|----------------------|--------------------------------------------------------------------------------------------------------------------|
| <b>Class Name</b>    | GenerateCredentialsOptions ( <i>Enumeration Class</i> )                                                            |
| <b>Extends From</b>  |                                                                                                                    |
| <b>Description</b>   | Enumeration class used specifying options for auto credential generation during user create and delete operations. |
| <b>XML Namespace</b> | http://user.model.rest.aesop.cisco.com                                                                             |
| <b>Enum Values</b>   | GenerateBlank, GenerateRandom, UserSpecified                                                                       |

**Spoken Name**

|                      |                                                                                                                                                                               |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Class Name</b>    | SpokenName                                                                                                                                                                    |
| <b>Extends From</b>  | ManagedBaseElement                                                                                                                                                            |
| <b>Description</b>   | This class represents the configured spoken name for a user. It does not define and fields locally and contains only the "resourceURI" field inherited from the parent class. |
| <b>XML Namespace</b> | http://user.model.rest.aesop.cisco.com                                                                                                                                        |

**VmUser**

|                      |                                                                                                                                                         |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Class Name</b>    | VmUser                                                                                                                                                  |
| <b>Extends From</b>  | User                                                                                                                                                    |
| <b>Description</b>   | This class represents voicemail subscribers in CUE system. It does not define and fields locally and inherits all its field from the base class "User". |
| <b>XML Namespace</b> | http://user.model.rest.voicemail.aesop.cisco.com                                                                                                        |

**Group**

|                      |                                                                                               |                    |                    |
|----------------------|-----------------------------------------------------------------------------------------------|--------------------|--------------------|
| <b>Class Name</b>    | Group                                                                                         |                    |                    |
| <b>Extends From</b>  | ManagedBaseElement                                                                            |                    |                    |
| <b>Description</b>   | Represents "groups" in CUE system. Usually created to manage privileges for a group of users. |                    |                    |
| <b>XML Namespace</b> | http://user.model.rest.aesop.cisco.com                                                        |                    |                    |
| <b>Field Name</b>    | <b>Type</b>                                                                                   | <b>Constraints</b> | <b>Comments</b>    |
| groupId              | String                                                                                        |                    | Name of the group. |

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|             |            |                                                                                                           |                                                                                                    |
|-------------|------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
|             |            | Required for POST (create) operation Length 2-31                                                          |                                                                                                    |
| description | String     | Length 0-40                                                                                               | For providing a brief description about the group.                                                 |
| displayName | String     | Length 0-59 If no value is specified during create, system will assign a value using groupId field value. | Full group name. Callers use the full name to access the extension using the dial-by-name feature. |
| email       | String     | Length 0 - 320                                                                                            | Email address of the group.                                                                        |
| epage       | String     | Length 0 - 320                                                                                            | Epage address of the group.                                                                        |
| privilege   | Privilege  | minOccurs="0"<br>maxOccurs="unbounded"                                                                    | Collection of privilege objects assigned to this group.                                            |
| spokenName  | SpokenName | For Read only                                                                                             | This field indicates if a spoken name is configured for the user.                                  |

## VmGroup

|                      |                                                                                                                                                                                                                                                                           |                    |                                                             |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------|
| <b>Class Name</b>    | VmGroup                                                                                                                                                                                                                                                                   |                    |                                                             |
| <b>Extends From</b>  | Group                                                                                                                                                                                                                                                                     |                    |                                                             |
| <b>Description</b>   | Represents "groups" in CUE system. Usually created to manage privileges for a group of users and to assign members to a general-delivery mailbox. Inherits all the fields from base class "Group", as well as define local fields specific to voicemail-related features. |                    |                                                             |
| <b>XML Namespace</b> | http://user.model.rest.voicemail.aesop.cisco.com                                                                                                                                                                                                                          |                    |                                                             |
| <b>Field Name</b>    | <b>Type</b>                                                                                                                                                                                                                                                               | <b>Constraints</b> | <b>Comments</b>                                             |
| faxNumber            | String                                                                                                                                                                                                                                                                    | Length 0 -15       | Group fax number                                            |
| phoneNumberE164      | String                                                                                                                                                                                                                                                                    | Length 0-15        | Full telephone number, including area code for the group.   |
| phoneNumber          | String                                                                                                                                                                                                                                                                    | Length 0-15        | Primary extension for the group's general-delivery mailbox. |

## Resources

| Resource URI     | Operation | Input | Return Value    |
|------------------|-----------|-------|-----------------|
| /voicemail/users | GET (read |       | BaseElementList |

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|                                                      |                                                      |                             |                                              |
|------------------------------------------------------|------------------------------------------------------|-----------------------------|----------------------------------------------|
|                                                      | all users)                                           |                             | containing "VmUser" objects.                 |
|                                                      |                                                      | POST create user)           | VmUser                                       |
| /voicemail/users/{userid}                            | GET (read a user)                                    |                             | VmUser                                       |
|                                                      | PUT (update a user)                                  | VmUser                      |                                              |
|                                                      | DELETE (delete user)                                 |                             |                                              |
| /voicemail/users/{userid}/groupmemberships           | GET (read groups where this user is a member)        |                             | BaseElementList containing "VmGroup" objects |
|                                                      | POST (add this user to a group as member)            | VmGroup (Only Resource URI) |                                              |
| /voicemail/users/{userid}/groupmemberships/{groupid} | DELETE (remove this user from a group as member)     |                             |                                              |
| /voicemail/users/{userid}/groupownerships            | GET (read groups where this user is an owner)        |                             | BaseElementList containing "VmGroup" objects |
|                                                      | POST (add this user to a group as owner)             | VmGroup (Only Resource URI) |                                              |
| /voicemail/users/{userid}/groupownerships/{groupid}  | DELETE (remove this user as owner from a group)      |                             |                                              |
| /voicemail/users/{userid}/spokenname                 | GET (download spoken name for this user)             | Accept: audio/x-wav         | Audio wav file of spoken name for user       |
|                                                      | PUT (Upload audio wav file for spoken name for user) | Content-type: audio/x-wav   |                                              |
| /voicemail/groups                                    |                                                      |                             |                                              |

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|                                                        |                                                                  |                                        |                                              |
|--------------------------------------------------------|------------------------------------------------------------------|----------------------------------------|----------------------------------------------|
|                                                        | GET (read all groups)                                            |                                        | BaseElementList containing "VmGroup" objects |
|                                                        | POST (create a new group)                                        | VmGroup (including group's Privileges) |                                              |
| /voicemail/groups/{groupid}                            | PUT (update a group)                                             | VmGroup (including group's Privileges) |                                              |
|                                                        | GET (read a group)                                               |                                        | VmGroup (including group's Privileges)       |
|                                                        | DELETE (delete group)                                            |                                        |                                              |
| /voicemail/groups/{groupid}/groupmemberships           | GET (read groups where this group is a member)                   |                                        | BaseElementList containing "VmGroup" objects |
|                                                        | POST (add the addressed group as member of another group)        | VmGroup (Resource URI only)            |                                              |
| /voicemail/groups/{groupid}/groupmemberships/{groupid} | DELETE (remove the addressed group as member from another group) |                                        |                                              |
| /voicemail/groups/{groupid}/groupownerships            | GET (read groups where this group is an owner)                   |                                        | BaseElementList containing "VmGroup" objects |
|                                                        | PUT (add the addressed group as member of another group)         | VmGroup (Resource URI only)            |                                              |
| /voicemail/groups/{groupid}/groupownerships/{groupid}  | DELETE (remove the                                               |                                        |                                              |

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|                                                        |                                                    |                                                                                                           |                                                           |
|--------------------------------------------------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
|                                                        | addressed group as owner of another group)         |                                                                                                           |                                                           |
| /voicemail/groups/{groupid}/members                    | GET (read all members of a group)                  |                                                                                                           | BaseElementList containing "VmGroup" and "VmUser" objects |
|                                                        | POST (add a user or group as member to this group) | VmUser or VmGroup                                                                                         |                                                           |
| /voicemail/groups/{groupid}/members/{memberId}         | DELETE (remove a member from this group)           |                                                                                                           |                                                           |
| /voicemail/groups/{groupid}/owners                     | GET (read all owners of this group)                |                                                                                                           | BaseElementList containing "VmGroup" and "VmUser" objects |
|                                                        | POST (add a user or group as owner to this group)  | VmUser or VmGroup                                                                                         |                                                           |
| /voicemail/groups/{groupid}/owners/{ownerId}           | DELETE (remove an owner from this group)           |                                                                                                           |                                                           |
| /voicemail/groups/{groupid}/privileges                 | GET (get list of privileges for this group)        |                                                                                                           | BaseElementList containing "Privilege" objects            |
|                                                        | POST (Add a privilege to this group)               | Privilege (with Resource URI or name) (to set multiple privileges for a group use update group operation) |                                                           |
| /voicemail/groups/{groupid}/privileges/{privilegeName} | DELETE (Remove a privilege from this group)        |                                                                                                           |                                                           |



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|                                   |                                         |                              |                                        |
|-----------------------------------|-----------------------------------------|------------------------------|----------------------------------------|
| /rest/groups/{groupid}/spokenname | GET<br>(download spoken name for group) | Accept:<br>audio/x-wav       | Audio wav file of spoken name for user |
|                                   | PUT<br>(Upload spoken name for group)   | Content-type:<br>audio/x-wav |                                        |

### User and Group Examples

#### Create User

Create a new user. Data for the new user is read from local file data/create\_userx.xml.

```
$ cat data/create_userx.xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<vmUser>
  <displayName>Mr. X Yzee</displayName>
  <email>email_xyz@email.com</email>
  <epage>epage_xyz@address.com</epage>
  <firstName>Axe</firstName>
  <language>en_US</language>
  <lastName>Yzee</lastName>
  <nickName>xyz</nickName>
  <phoneNumber>1010</phoneNumber>
  <phoneNumberE164>213151273</phoneNumberE164>
  <pin>1234</pin>
  <generateOptions>
    <passwordOption>GenerateRandom</passwordOption>
  </generateOptions>
  <userId>userX</userId>
</vmUser>
```

```
$ curl -i -X POST -H 'Authorization: Basic Y2lzY286Y2lzY28=' -H 'Content-type: application/xml'
-d @./data/create_userx.xml http://172.27.104.144/rest/voicemail/users
```

```
HTTP/1.1 201 Created
Server: Apache-Coyote/1.1
Set-Cookie: JSESSIONID=CDE84ED1DFCC25FA7F8029EE0C27E755; Path=/rest
PI-Version: 8.0.0.150
Location: http://172.27.104.144/rest/voicemail/users/voicemail/users/userX
Content-Type: text/plain
Transfer-Encoding: chunked
Date: Fri, 04 Dec 2009 02:11:43 GMT
Created - /voicemail/users/userX
```

#### Read All Users

Read all users. Specify only first name and lastName fields to be included in the results.

```
$ curl -i -X GET -H 'Authorization: Basic Y2lzY286Y2lzY28=' http://172.27.104.144/rest/voicemail
/users?fields=firstName,lastName
```

```
HTTP/1.1 200 OK
Server: Apache-Coyote/1.1
Set-Cookie: JSESSIONID=441971AE997CDD32051F45F1544A8231; Path=/rest
PI-Version: 8.0.0.150
```

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Content-Type: application/xml  
Transfer-Encoding: chunked  
Date: Fri, 04 Dec 2009 02:03:00 GMT

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<baseElementList>
  <baseElement xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:ns3="http://user.model.rest.voicemail.aesop.cisco.com" xsi:type="ns3:vmUser">
  <resourceURI>/voicemail/users/userX</resourceURI>
  <firstName>Axe</firstName>
  <lastName>Yzee</lastName>
</baseElement>
  <baseElement xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:ns3="http://user.model.rest.voicemail.aesop.cisco.com" xsi:type="ns3:vmUser">
  <resourceURI>/voicemail/users/cisco</resourceURI>
  <firstName>first</firstName>
  <lastName>cisco</lastName>
</baseElement>
</baseElementList>
```

### Create Group

Create a Group. Data for the new group is read from local file ./data/create\_groupy.xml.

```
$ cat data/create_groupy.xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<vmGroup>
  <description>GroupY</description>
  <displayName>GroupWhy</displayName>
  <email>email@noreply.com</email>
  <groupId>groupY</groupId>
  <language>en_US</language>
  <privilege>
    <resourceURI>/privileges/tcv-payroll</resourceURI>
  </privilege>
  <privilege>
    <name>ViewHistoricalReports</name>
  </privilege>
  <privilege>
    <name>ManagePublicList</name>
  </privilege>
  <privilege>
    <resourceURI>/privileges/ManagePrompts</resourceURI>
  </privilege>
</vmGroup>

$ curl -i -X POST -H 'Authorization: Basic Y2lzY286Y2lzY28=' -H 'Content-type: application/xml'
-d @./data/create_groupy.xml http://172.27.104.144/rest/voicemail/groups
HTTP/1.1 201 Created
Server: Apache-Coyote/1.1
Set-Cookie: JSESSIONID=3B975C8500C143DB10E47B4970DDB2C0; Path=/rest
PI-Version: 8.0.0.150
Location: http://172.27.104.144/rest/voicemail/groups/voicemail/groups/groupY
Content-Type: text/plain
Transfer-Encoding: chunked
Date: Fri, 04 Dec 2009 06:15:16 GMT
Created - /voicemail/groups/groupY
```

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### Add User to a Group

Add userX as member to groupY. Input data is read from local file ./data/userx.xml.

```
$ cat ./data/userx.xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<vmUser>
  <userId>userX</userId>
</vmUser>

$ curl -i -X POST -H 'Authorization: Basic Y2lzY286Y2lzY28=' -H 'Content-type: application/xml'
-d @./data/userx.xml
http://172.27.104.144/rest/voicemail/groups/groupY/members

HTTP/1.1 200 OK
Server: Apache-Coyote/1.1
Set-Cookie: JSESSIONID=58D138AD5DE9ECCBD801D86F0518755C; Path=/rest
PI-Version: 8.0.0.150
Content-Type: text/plain
Transfer-Encoding: chunked
Date: Fri, 04 Dec 2009 06:22:57 GMT

Added userX as member to Group - groupY
```

### Remove User from a Group

Remove userX as member of groupY.

```
$ curl -i -X DELETE -H 'Authorization: Basic Y2lzY286Y2lzY28='
http://172.27.104.144/rest/voicemail/groups/groupY/members/userX

HTTP/1.1 200 OK
Server: Apache-Coyote/1.1
Set-Cookie: JSESSIONID=C182CA0E8CF34573508C6D31E99DA6A4; Path=/rest
PI-Version: 8.0.0.150
Content-Type: text/plain
Transfer-Encoding: chunked
Date: Fri, 04 Dec 2009 06:34:46 GMT

Removed userX as member of Group - groupY
```

### Upload Spoken Name for Group

Upload spoken name for groupX. The spoken name is uploaded from local wav file data/groupX.upload.wav

```
$ curl -i -T ./data/groupX.upload.wav -H 'Authorization: Basic Y2lzY286Y2lzY28=' -H
'Content-type: audio/x-wav'
http://172.27.104.144/rest/voicemail/groups/groupX/spokenname
HTTP/1.1 100 Continue

HTTP/1.1 200 OK
Server: Apache-Coyote/1.1
Set-Cookie: JSESSIONID=6EDB5242A677B1CD6495DD96A2D5D256; Path=/rest
PI-Version: 8.0.0.150
Content-Type: text/plain
Transfer-Encoding: chunked
Date: Fri, 04 Dec 2009 06:38:50 GMT

Uploaded - /voicemail/groups/groupX/spokenname
```

```
$ curl -i -X GET -H 'Authorization: Basic Y2lzY286Y2lzY28='
```

### Add User to a Group

## Cisco\_Unity\_Express\_--\_User\_and\_Group\_Management\_REST\_API\_Service\_Operation

```
http://172.27.104.144/rest/voicemail/groups/groupX
HTTP/1.1 200 OK
Server: Apache-Coyote/1.1
Set-Cookie: JSESSIONID=A98FDBA862CD2DFAC7DE079ACE304678; Path=/rest
PI-Version: 8.0.0.150
Content-Type: application/xml
Content-Length: 488
Date: Fri, 04 Dec 2009 06:42:44 GMT
```

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<vmGroup>
  <resourceURI>/voicemail/groups/groupX</resourceURI>
  <description>Group X's Description</description>
  <displayName>Group Hacks</displayName>
  <email>email@noreply.com</email>
  <groupId>groupX</groupId>
  <language>en_US</language>
  <spokenName>
    <resourceURI>/voicemail/groups/groupX/spokenname</resourceURI>
  </spokenName>
  <faxNumber>56908762</faxNumber>
  <phoneNumber>7654</phoneNumber>
  <phoneNumberE164>4083925174</phoneNumberE164>
</vmGroup>
```