G-Invoicing – Pull Organization API

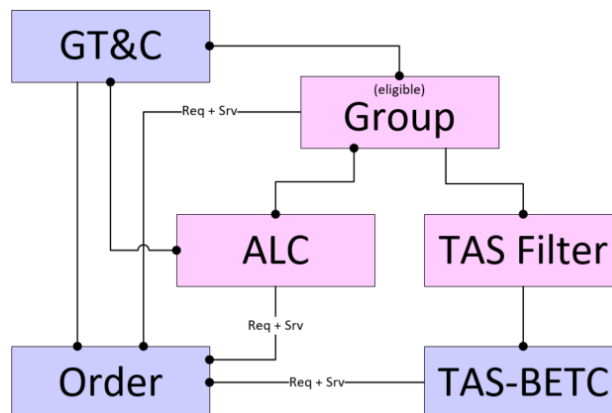|	
Description/ Purpose	This specification describes how to call the application programming interface (API) to extract Organizational (org) Groups and related data from G-Invoicing. Org Groups are used to control access to documents, ALCs and TAS-BETCs (through TAS Filters). New or updated Orders pushed to G-Invoicing after release 4.0 must be assigned two valid org Groups and ALCs (requesting and servicing). Each Schedule on an Order must be assigned two valid TAS-BETCs.
Status Codes	**Common HTTP Status Codes:** • 200 – Okay • 400 – Bad request • 403 – Forbidden • 500 – Internal server error

Organization

Summary

This service provides organizational data in JavaScript Object Notation (JSON) format to an external agency partner. Multiple resources are available to pull organizational groups and related information, each described below, and each result in its own format. Data involved in Resources 1 and 2 are defined in the Organizational FIDS. TAS-BETC data involved in Resource 3 is defined in the Order FIDS.

Note: Only an authorized Partner ID (and accompanying System ID) will elicit a response from G-Invoicing. See the System Integration Guide or G-Invoicing Playbook for information on how to partner with G-Invoicing, or contact us at IGT@fiscal.treasury.gov

Entity Relationships

The diagram below depicts the relationships between organizational entities (e.g., Group, ALC, TAS Filter), G-Invoicing document types (e.g., GT&C, Order) and reference data (TAS-BETC) obtained from Fiscal Service's Shared Accounting Module (SAM).

Each Order must reference a GT&C, two ALCs (requesting and servicing) and two TAS-BETCs (requesting and servicing) for each Schedule in the Order. The Pull Org resources described below provide all the valid choices for Group, ALC and TAS-BETC under a GT&C.

Resources

1. Get Groups for a GT&C

This endpoint allows systems to extract all the organizational Groups that can be associated with an Order under the requested GT&C. Aside from the eligible Groups, the returned data set also includes eligible ALC(s) and TAS Filter(s), both on the requesting and servicing sides of the requested GT&C. The resulting JSON is in a flattened format, suitable for populating a drop-down list of Groups that may be chosen for assignment to an Order under the requested GT&C.

Note: Order Manager role is not required to call this resource, but is required to create an Order.

> **HTTP method: GET**
>
> **Path:** /ginv/services/v1_0/groups/forGtc/{gtcNbr}/
>
> **Request:**
>> **Parameters**
>>> Name: systemId
>>> Description: Identifies the system that is exchanging data with G-Invoicing
>>> In: header
>>> Type: string [100]
>>> Required: true
>>>
>>> Name: gtcNbr
>>> Description: Limits the results to the requested General Terms and Conditions agreement and any related Groups that will support an Order under that GT&C
>>> In: path
>>> Type: string [20]
>>> Required: true
>>>
>>> Name: buySellIndicator (R=requesting, S=servicing)
>>> Description: Limits the results to requesting or servicing Groups based on the System ID's access via the Requesting or Servicing Order Manager role
>>> In: query
>>> Type: string [1]
>>> Required: false
>>
>> **Example**
>>> GET /ginv/services/v1_0/groups/forGtc/A2006-123-234-000345
>>> Host: ws.igt.fiscal.treasury.gov
>>> Accept: application/json

Accept Encoding: gzip, deflate
Connection: Keep-Alive

Business Rules:

There are rules governing the relationships between a GT&C and its Orders, and data referenced from those Orders. These rules are applied to the JSON data set included with the API response:
1. Requesting and Servicing Groups are managed separately, following the same rules.
2. A valid org Group must be selected for each partner (buyer and seller) on the Order.
3. Only active org Groups may be assigned to the Order, thus are included in the response.
4. At a minimum, the Group associated with the GT&C may always be used for the Order.
5. Only org Groups containing at least one of the ALCs assigned to the GT&C are included in the response.
6. When the Document Inheritance Indicator is 'N' (no), descendants of the org Group associated with the GT&C may not be used for the Order (unless they qualify as a Subordinate Group. (See next rule).
7. Additional "subordinate" Groups may be assigned to a GT&C, and Orders may be created in these "subordinate" Groups.
8. The optional buySellIndicator parameter may be used to limit the groups returned to those that the client System ID could use to create an Order. If the client's System ID is assigned to the uppermost group in the organization (for the Order Manager role) then this parameter need not be specified.
    a. If <u>not</u> specified, all eligible groups are returned for both sides of the Order.
    b. If specified as 'R', G-Invoicing will limit the returned groups on the requesting side of the Order based on the System IDs group assignments for the Requesting Order Manager role.
    c. If specified as 'S', G-Invoicing will limit the returned groups on the servicing side of the Order based on the System IDs group assignments for the Servicing Order Manager role.

2. Get Groups in an Agency Account

This endpoint allows systems to extract detail data describing all organizational Groups within the Agency (aka, Disburser) Account for the requested System ID. The resulting JSON is in a hierarchical format, suitable for simulating the organizational tree in G-Invoicing.

HTTP method: GET

Path: /ginv/services/v1_0/groups/

Request:
> **Parameters**
>> Name: systemId
>> Description: Identifies the system that is exchanging data with G-Invoicing and provides necessary linkage to the requested Agency Account

In: header
Type: string [100]
Required: true

Name: showInactive
Description: Expands the returned data set to include inactive Groups;
Otherwise only active Groups are returned
In: query
Type: string [1]
Required: false

Example
GET /ginv/services/v1_0/groups?showInactive=Y
Host: ws.igt.fiscal.treasury.gov
Accept: application/json
Accept Encoding: gzip, deflate
Connection: Keep-Alive

Business Rules:

1. This service will return all Groups within the Agency Account in which the System ID resides, which may span multiple organizational hierarchies within that agency account.

2. The parent-child relationships between org Groups can be used to recreate the hierarchy for an agency account in G-Invoicing, but cannot by itself be used to predict which Groups can view and manage Orders and Performance under that GT&C agreement. The *Get Groups for a GT&C* resource (above) should be used for that purpose.

3. Get TAS-BETCs for a Group

This endpoint allows systems to extract detail data describing all valid combinations of TAS and BETC for an Order created within a specific org Group. The resulting JSON is in a flattened format, suitable for populating a drop-down list of TAS-BETC choices.

HTTP method: GET

Path: /ginv/services/v1_0/groups/{groupId}/tasBetcs

Request:
Parameters
Name: systemId
Description: Identifies the system that is exchanging data with G-Invoicing
In: header
Type: string [100]
Required: true

Name: groupId
Description: Limits the results to the requested org Group
In: path
Type: string [36]
Required: true

Name: buySellIndicator *(R=requesting, S=servicing)*
Description: Limits the results to requesting or servicing TAS-BETCs
In: query
Type: string [1]
Required: true

Example

GET /ginv/services/v1_0/groups/c266353b-c46f-4606-9438-3bf1b6a1ff1d/tasBetcs?buySellIndicator=R
Host: ws.igt.fiscal.treasury.gov
Accept: application/json
Accept Encoding: gzip, deflate
Connection: Keep-Alive

Business Rules:

1. This service will return all requesting or servicing TAS-BETC combinations that are valid for the specified org Group.

2. There are two sides to every Order (requesting and servicing). In some cases (e.g., seller facilitated Order) one partner can supply TAS-BETCs for both sides. In these situations, this resource can be called twice, once for buySellIndicator 'R' (requesting) and again for buySellIndicator 'S' (servicing.

   a. When buySellIndicator = 'R', G-Invoicing will provide valid debit BETCs from the Shared Accounting Module (i.e., isCredit = '0').

   b. When buySellIndicator = 'S', G-Invoicing will provide valid credit BETCs from the Shared Accounting Module (i.e., isCredit = '1').

Responses

Bad Request

Content Type: application/json
Status Code: 400
Description: Request could not be processed, returned with a message text containing the problem encountered (in the response).
Schema: errors

Example
```
{
        "callDetail": {
```

```
                              "environment": "TEST",
                              "recordCount": "1"
                        },
                        "errors": [
                              {
                                    "code": "400",
                                    "message": "Group not found"
                              }
                        ]
                  }
```

Note: The recordCount represents a count of all objects in the body of the response, whether the body contains errors (see above), Groups or TAS-BETCs (see below).

Forbidden (aka, unauthorized request)
> **Content Type:** application/json
> **Status Code:** 403
> **Description:** System ID included in the request was not found or not authorized
> **Schema:** errors

Internal Server Error
> **Content Type:** application/json
> **Status Code:** 500
> **Description:** An unexpected error was encountered.
> **Schema:** errors

Okay (aka, success)
> **Content Type:** application/json
> **Status Code:** 200
> **Description:** Organizational request was successfully processed with a response containing the organizational Groups matching the criteria.
> **Schema:** Organization

Example of a Successful Resource 1 (Get Groups for GT&C) Response

```
{
  "callDetail": {
    "environment": "DEVF",
    "recordCount": "3"
  },
  "requestingGroups": [
    {
      "id": "b94bf5b5-40be-4f84-9dcf-0df76cca56cb",
      "name": "Test Group 1",
      "description": "Test Parent Description",
      "createDate": "2020-02-07T18:57:31.393Z",
      "lastUpdateDateTime": "2020-02-07T18:57:31.393Z",
      "status": "A",
      "alcCodes": [
        "00002050"
```

```
      ],
      "tasFilters": [
        {
          "aid": "000",
          "ata": "000",
          "sub": "000",
          "main": "000 "
        }
      ]
    },
    {
      "id": "34e4a8e1-5998-481b-8596-b0200797b57b",
      "name": "TestGroup 2",
      "description": "Test Description",
      "createDate": "2020-01-13T16:07:56.244Z",
      "lastUpdateDateTime": "2020-02-07T18:56:00.576Z",
      "status": "A",
      "alcCodes": [
        "00002050",
        "00002049"
      ],
      "tasFilters": [
        {
          "aid": "000"
        }
      ]
    }
  ],
  "servicingGroups": [
    {
      "id": "34e4a8e1-5998-481b-8596-b0200797b57b",
      "name": "TestGroup 2",
      "description": "Test Description",
      "createDate": "2020-01-13T16:07:56.244Z",
      "lastUpdateDateTime": "2020-02-07T18:56:00.576Z",
      "status": "A",
      "alcCodes": [
        "00002050",
        "00002049"
      ],
      "tasFilters": [
        {
          "aid": "000"
        }
      ]
    }
  ]
}
```

Example of a Successful Resource 2 (Get Groups in Agency Account) Response

```
{
  "callDetail":     {
    "environment": "TEST",
    "recordCount": "3"
```

```json
        },
        "groups": [
                {
                        "id": "34e4a8e1-5998-481b-8596-b0200797b57b",
                        "name": "TestGroup",
                        "description": "Test Description",
                        "children": [
                                {
                                        "id": "1ab8c6ba-bbb7-4ccc-bebd-74fc2efce001",
                                        "name": "TestChildGroup",
                                        "description": "Test Child Description",
                                        "status": "A",
                                        "createDate": "2020-02-07T18:56:42.892Z",
                                        "parentId": "34e4a8e1-5998-481b-8596-b0200797b57b",
                                        "alcCodes": [
                                                "00002049"
                                        ],
                                        "tasFilters": [
                                                {
                                                        "aid": "014",
                                                        "ata": "020",
                                                        "sub": "001",
                                                        "main": "1199"
                                                }
                                        ]
                                },
                                {
                                        "id": "e6a9e3b3-ba67-44f9-b4f8-fe2ac170a8b6",
                                        "name": "TestChild2Group",
                                        "description": "Test Child2 Description",
                                        "status": "I",
                                        "createDate": "2020-02-07T18:58:06.375Z",
                                        "deactiveDate": "2020-02-08T13:28:16.273Z",
                                        "lastUpdateDateTime": "2020-02-08T13:28:16.273Z",
                                        "parentId": "34e4a8e1-5998-481b-8596-b0200797b57b",
                                        "alcCodes": [
                                                "00002050"
                                        ],
                                        "tasFilters": [
                                                {
                                                        "aid": "014"
                                                },
                                                {
                                                        "aid": "020",
                                                        "ata": "014"
                                                }
                                        ]
                                }
                        ],
                        "status": "A",
                        "createDate": "2020-02-07T18:56:42.892Z",
                        "lastUpdateDateTime": "2020-02-08T13:28:16.273Z",
                        "alcCodes": [
                                "00002050",
                                "00002049"
                        ]
```

```
            }
        ]
}
```

Example of a Successful Resource 3 (Get TAS-BETCs for a Group) Response

```
{
  "callDetail": {
    "environment": "TEST",
    "recordCount": "3"
  },
  "tasBetcs": [
    {
      "subLevelPrefixCd": "06",
      "agencyId": "000",
      "allocTransferAgcyId": "015",
      "availabilityTypeCd": "A",
      "beginningPeriodAvail": "2011",
      "endingPeriodAvail": "2015",
      "mainAcctCd": "0110",
      "subAccountCd": "000",
      "busEventTypeCd": "DISB"
    },
    {
      "subLevelPrefixCd": "06",
      "agencyId": "000",
      "allocTransferAgcyId": "015",
      "availabilityTypeCd": "A",
      "beginningPeriodAvail": "2011",
      "endingPeriodAvail": "2015",
      "mainAcctCd": "0110",
      "subAccountCd": "000",
      "busEventTypeCd": "DISNGF"
    },
    {
      "subLevelPrefixCd": "06",
      "agencyId": "000",
      "allocTransferAgcyId": "015",
      "availabilityTypeCd": "A",
      "beginningPeriodAvail": "2011",
      "endingPeriodAvail": "2015",
      "mainAcctCd": "0110",
      "subAccountCd": "000",
      "busEventTypeCd": "DISGF"
    }
  ]
}
```

Appendix A: JSON Schemas

Error Schema

```json
{
      "type": "object",
      "properties": {
            "callDetail": {
                  "type": "object",
                  "properties": {
                        "environment": {
                              "type": "string"
                        },
                        "recordCount": {
                              "type": "string"
                        }
                  }
            },
            "errors": {
                  "type": "array",
                  "items": {
                        "type": "object",
                        "properties": {
                              "code": {
                                    "type": "string"
                              },
                              "message": {
                                    "type": "string"
                              }
                        }
                  }
            }
      }
}
```

Resource 1 (Get Groups for GT&C)

```json
{
  "type": "object",
  "properties": {
    "callDetail": {
      "type": "object",
      "properties": {
        "environment": {
          "type": "string"
        },
        "recordCount": {
          "type": "string"
        }
      }
    },
    "requestingGroups": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "id": {
            "type": "string"
```

```
          },
          "name": {
            "type": "string"
          },
          "description": {
            "type": "string"
          },
          "parentId": {
            "type": "string"
          },
          "createDate": {
            "type": "string",
            "format": "date-time"
          },
          "deactiveDate": {
            "type": "string",
            "format": "date-time"
          },
          "lastUpdateDateTime": {
            "type": "string",
            "format": "date-time"
          },
          "status": {
            "type": "string"
          },
          "alcCodes": {
            "type": "array",
            "items": {
              "type": "string"
            }
          },
          "tasFilters": {
            "type": "array",
            "items": {
              "type": "object",
              "properties": {
                "aid": {
                  "type": "string"
                },
                "ata": {
                  "type": "string"
                },
                "sub": {
                  "type": "string"
                },
                "main": {
                  "type": "string"
                }
              }
            }
          }
        }
      }
    },
    "servicingGroups": {
      "type": "array",
```

```
    "items": {
      "type": "object",
      "properties": {
        "id": {
          "type": "string"
        },
        "name": {
          "type": "string"
        },
        "description": {
          "type": "string"
        },
        "parentId": {
          "type": "string"
        },
        "createDate": {
          "type": "string",
          "format": "date-time"
        },
        "deactiveDate": {
          "type": "string",
          "format": "date-time"
        },
        "lastUpdateDateTime": {
          "type": "string",
          "format": "date-time"
        },
        "status": {
          "type": "string"
        },
        "alcCodes": {
          "type": "array",
          "items": {
            "type": "string"
          }
        },
        "tasFilters": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "aid": {
                "type": "string"
              },
              "ata": {
                "type": "string"
              },
              "sub": {
                "type": "string"
              },
              "main": {
                "type": "string"
              }
            }
          }
        }
```

```
            }
         }
      }
   }
}
```


Resource 2 (Get Groups in Agency Account)

```
{
      "type": "object",
      "properties": {
            "callDetail": {
                  "type": "object",
                  "properties": {
                        "environment": {
                              "type": "string"
                        },
                        "recordCount": {
                              "type": "string"
                        }
                  }
            },
            "groups": {
                  "type": "array",
                  "items": {
                        "type": "object",
                        "properties": {
                              "id": {
                                    "type": "string"
                              },
                              "name": {
                                    "type": "string"
                              },
                              "description": {
                                    "type": "string"
                              },
                              "children": {
                                    "type": "array",
                                    "items": {
                                          "type": "object"
                                    }
                              },
                              "status": {
                                    "type": "string"
                              },
                              "deactiveDate": {
                                    "type": "string",
                                    "format": "date-time"
                              },
                              "createDate": {
                                    "type": "string",
                                    "format": "date-time"
                              },
                              "lastUpdateDateTime": {
```

```
                                    "type": "string",
                                    "format": "date-time"
                              },
                              "parentId": {
                                    "type": "string"
                              },
                              "alcCodes": {
                                    "type": "array",
                                    "items": {
                                          "type": "string"
                                    }
                              },
                              "tasFilters": {
                                    "type": "array",
                                    "items": {
                                          "type": "object",
                                          "properties": {
                                                "aid": {
                                                      "type": "string"
                                                },
                                                "ata": {
                                                      "type": "string"
                                                },
                                                "sub": {
                                                      "type": "string"
                                                },
                                                "main": {
                                                      "type": "string"
                                                }
                                          }
                                    }
                              }
                        }
                  }
            }
      }
}
```

Resource 3 (Get TAS-BETCs for a Group)
```
{
  "type": "object",
  "properties": {
    "callDetail": {
      "type": "object",
      "properties": {
        "environment": {
          "type": "string"
        },
        "recordCount": {
          "type": "string"
        }
      }
    },
    "tasBetcs": {
      "type": "array",
```

```
      "items": {
        "type": "object",
         "properties": {
           "subLevelPrefixCd": {
             "type": "string"
           },
           "agencyId": {
             "type": "string"
           },
           "allocTransferAgcyId": {
             "type": "string"
           },
           "availabilityTypeCd": {
             "type": "string"
           },
           "beginningPeriodAvail": {
             "type": "string"
           },
           "endingPeriodAvail": {
             "type": "string"
           },
           "mainAcctCd": {
             "type": "string"
           },
           "subAccountCd": {
             "type": "string"
           },
           "busEventTypeCd": {
             "type": "string"
           }
         }
       }
     }
   }
 }
```

Appendix B: Revision History

Doc. Vers.	API Vers.	Date of Change	G-Inv Rel.	Change/Revision Description	Page/Section Affected
0.1		2/14/20		Initial draft for internal review.	All
0.2		2/20/20		Updated schemas to handle timestamps in compliant way	Example and Appendix B
0.3		2/21/20		Updated after internal review, prior to distributing to Treasury	pp. 2-4
1.0	1_0	2/28/20		Published version after review with ERP Vendors	No change
1.1		4/9/20	4.0	1. API will not be available until release 4.0 (not 3.3) 2. Dropped accountId and accountName because they add no value	JSON schema and sample
1.2		6/5/20	4.0	1. Renamed from Organizational Groups to Organizational Data 2. Get Groups for Order parameter Group replaced by GT&C Nbr 3. New resource to pull eligible TAS-BETCs	Resource 1 Resource 3
1.3		6/11/20	4.0	Made adjustments following internal review.	Resource 1

					Resource 3
1.4		6/22/20	4.0	Folded in JSON schemas and samples	Resource 1-3
1.5		6/22/20	4.0	Differentiated path names for resources 1 and 3. Draft version for first distribution to vendors and agencies.	Resource 1, 3
2.0		6/25/20	4.0	Prepped version 2.0 for publishing. No material change.	
2.0.1		8/31/20	4.0	Clarified that Order Manager role is required to create Orders.	Resource 1
2.1		11/9/20	4.1	1. Added rules 5-7 to Resource 1. 2. Corrected hyperlink to Org FIDS.	Resource 1 Summary
2.2		12/16/20	4.1	Added optional buySellIndicator parameter to Resource 1	Resource 1

End of Specification