Bloomberg

DATA LICENSE

Per Security Product Manual

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What is Data License Per Security?

Introduction

The Data License Per Security Product allows a customer to access financial information on a per security basis. Customers can shape a request to meet their information needs and submit it to Bloomberg through a variety of methods. Bloomberg processes these requests and sends back the information. This is a very flexible, effective, and timely way to access Bloomberg data.

Bloomberg data is divided into five field types: Security Master or Fundamental descriptive data, End of Day Prices, Derived data, Historical Time series data and Credit Risk.

Request Options:

There are two basic types of requests:

Oneshot This is a one-time request for data. At any time, the customer submits a **request** file, which Bloomberg processes on receipt or at a time specified by the customer.

Scheduled The customer submits a **request** file, to be processed by Bloomberg according to client specification. Options include daily, weekdays, weekends, weekly or monthly. The customer has the option of receiving the entire file every day or just the changes between the current file and the previous file (see DIFFFLAG option). The request will run at a time specified by the customer.

Request files are composed of the following sections:

File header. This section contains information that identifies the customer, the type of request to run, the time to run the request, and other options that are detailed in the File Header section. Bloomberg may add options to this section during processing.

List of desired data items This **Fields** section may or may not be needed in a request file, depending upon the program being run by the client (i.e., data items must be specified in the getdata program; data items are predetermined in the getticks program).

List of securities This section can be filled with a list of individual securities, a wildcard macro or a link to a portfolio or security search on the BLOOMBERG Professional. Bloomberg offers a wildcard mechanism that allows the selection of universes of securities, such as all corporate bonds from a specified country or all stocks that trade on a specified exchange. Secondary qualifiers can be used for a more specific security list.

Where can I load these files?

Supported Platforms and Databases

Data License output is sent in flat ASCII text files. Clients can load these files into *any* platform that supports ASCII text.

Bloomberg Data License can be implemented on any hardware platform that can execute FTP Transfer and process delimited ASCII files. Bloomberg Data License supports Internet connectivity.

Required Hardware

Bloomberg Data License is not hardware dependent. If the use of a dedicated circuit is desired, however, clients are responsible for and shall pay for all costs of communication, common carrier equipment installation and monthly charges incurred with the service.

Required Software for Internet Connection

Encryption

DES software is used to encrypt files sent to accounts with an Internet connection. Further information is provided in the next section of this document and the des.readme text file. The des.readme and several des executables for various platforms are available. Bloomberg will provide this software by putting the executable files in the Notices folder of the client's home directory. This software is also available for download on the **DLSD** <go> function on the Bloomberg Professional.

The software is currently supported on the following operating systems: Windows 2000, Windows NT, Windows XP, Windows Server 2003, Windows Server 2008, Windows Vista, AIX, AIX1, Solaris, Solaris 2.5, Solaris 2.6, OSF/1 (DEC Alpha), DG/UX and HP/UX. If this software is needed on another platform, Bloomberg will provide a file that can compile a version for the respected platform.

Compression

The UNIX utility gzip is used to compress files. Files loaded into a UNIX platform can be decompressed with the UNIX gzip utility. Files loaded into a Windows platform can be decompressed with the WinZip application. *Bloomberg always compresses the output files for the* ***gethistory, getticks, getallticks, getquotes, and getallquotes*** *programs before delivery*.

How do I get my data?

Access, Delivery Options, and Security

There are three methods by which a customer can request data from Bloomberg: Proprietary, FTP, and webservices.

- **Proprietary Method**

A Data License client with a BLOOMBERG PROFESSIONAL™ service can leverage the existing infrastructure and avoid additional equipment and communication charges by using DLDL or Send File. Information regarding the DLDL function is available on the BLOOMBERG PROFESSIONAL™ Service under DLDL <Help>. Send File information is provided later in this document.

- **FTP (TCP/IP) Method**

Each customer will be assigned a restricted login to Bloomberg's FTP servers. The login, combined with a password, will protect access to a customer's home directories on these servers. Customers send data request files and pick up the resulting data output from these directories via FTP (TCP/IP). Two connectivity possibilities are specified below.

FTP via the Internet There is no equipment charge or communication charge for Internet delivery. FTP via the Internet requires all data to be encrypted. We use DES software to encrypt files sent to accounts with an Internet connection.

FTP Internet access will be disabled after 180 days of inactivity. Should your account become disabled, you must contact Bloomberg Technical Support to have it enabled once again. Please see page 101 for Technical Support contact numbers.

FTP via dedicated circuit If the use of a dedicated circuit is desired, client is responsible for and shall pay for all costs of communication, common carrier equipment installation and monthly charges incurred with the service. There is an installation fee and a monthly equipment charge for the maintenance of hardware.

- **Webservices**

Data License Web Services provides a programmatic interface to Bloomberg's world-class reference data for use in applications at the client site. Access to the data categories of Security Master, Derived, End of Day Pricing and Time Series is available. Please refer to the Data License Webservices manual available on client FTP servers and DLSD<GO> on a BLOOMBERG PROFESSIONAL™ terminal for more information regarding this delivery method.

Security

Firewall To prevent unauthorized access by customers into our network, we maintain a firewall between the Bloomberg mainframes and the Bloomberg FTP servers. The customer may use a firewall to prevent the possibility of any unauthorized connections to their LAN through the Bloomberg routers.

Internet Encryption In order to ensure secure data transfers over the Internet, Bloomberg uses the 56-bit symmetric Data Encryption Standard (DES) algorithm to decrypt/encrypt the files (See Appendix A for copyright details). Bloomberg provides files containing this DES software along with an encryption key. The DES software is currently supported on the following operating systems: Windows 2000, Windows NT, Windows XP, Windows Server 2003, Windows Server 2008, Windows Vista, AIX, AIX1, Solaris, Solaris 2.5, Solaris 2.6, SunOS 5.7, OSF/1 (DEC Alpha), DG/UX and HP/UX. **Bloomberg will provide these files by putting them in the Notices folder of the client's home directory.** Users of Windows-based operating systems should use the software named des.exe. DES files appropriate for the other operating systems have the operating system name included in the file name, (i.e., des-solaris). Further information is available in a des.readme file. The extension **.enc** is added to the encrypted file names. Bloomberg Data License Front End software is available to simplify the handling of encrypted/decrypted files. Please see the Bloomberg Data License Front Ends Software User Manual for further details.

What do I need to get the files?

What You Need from Bloomberg

For FTP

- A home directory will be created on two interchangeable FTP servers.
- A Login and Password will be assigned for the home directories.
- The IP Addresses and Host Names of the FTP servers will be provided (see Appendix B)
- For FTP via dedicated circuit, communication equipment will need to be purchased from and installed by Bloomberg
- If use of the Data License Front Ends Software applications is desired, please contact your Data License Sales Representative. Upon the receipt of a Per Security contract, Bloomberg will provide the software by placing it in the client's FTP Notices subdirectory. Most Data License Front Ends software is made available at no charge.

For DLDL

- The BLOOMBERG PROFESSIONAL™ service is needed to utilize the DLDL function.
- Bloomberg will permission this function for an individual's login upon receipt of a contract.

Per Security Request Mechanisms

Request File Mechanisms – FTP and Send File

The two methods of communication for the process described in this document are FTP (TCP/IP) and Send File via the BLOOMBERG PROFESSIONAL™ service.

FTP Requests

Each FTP customer will be given a restricted login for two interchangeable FTP servers. For security purposes, customers will not have permission to access directories outside their home directories. Please refer to Appendix B for Host Names and IP addresses.

An FTP request has a limit of 127 characters per line in the header section of the request. All other lines have a limit of 255 characters.

Typically, FTP customers put request files in their home directories and then poll the server for the resulting reply files. To prevent connectivity issues, clients should ensure they close their existing FTP session any time they open a new one. *Files that are sent to Bloomberg for processing must have an extension of* ***.req*** *(any case combination) or the request will not be processed.* The request file name (including the four characters used for **.req**) must not exceed 25 characters.

When a request file has been sent to our backend machine for processing, the file is moved to **.copied**. For example, when the request ***equity-info.req*** is sent to the backend machine, it is renamed ***equity-info.req.copied***.

The only accepted extensions are **.req** and **.req.enc** (see encryption note below). Requests sent in with the **.copied** extension in the file name will not be processed.

Clients can use the REPLYFILENAME option in the header section of the request file to specify the name of their reply file. The reply file name must not end in **.req** or **.req.enc**. The reply file will not appear in the customer's home directory until it has *completely* transferred from our backend machine and is ready to be picked up.

Request file names and REPLYFILENAME cannot contain the following characters:

` ~ ! @ # $ % & * ( ) [ ] ,

{ } : ; ‘ “ > < / ? \ | =

Spaces are also not allowed in request or reply file names.

Internet customers can send *encrypted* request files. Bloomberg supplies the encryption software and key. (See Appendix A for copyright details.) The software is currently supported on the following operating systems: Windows 2000, Windows NT, Windows XP, Windows Server 2003, Windows Server 2008, Windows Vista, AIX, AIX1, Solaris, Solaris 2.5, Solaris 2.6, OSF/1 (DEC Alpha), DG/UX and HP/UX. Files containing the DES software are available. Bloomberg will provide these files by putting them in the Notices folder of the client's home directory. These files are additionally available in the DLSD <GO> function of the BLOOMBERG Professional ™. Users of Windows-based operating systems should use the des.exe software. DES files appropriate for the other operating systems have the operating system name included in the file name, (i.e., des-solaris). Further information is available in a des.readme file.

Once a key is assigned and the proper version of the software is obtained, the command to encrypt is

des -E -u -k "xxxxxxxx" *request.req request.req.enc*

The key is represented in the above as xxxxxxxx. The double quotes are required and the key is ***case-sensitive***. *request.req* is the clear (readable) file and *request.req.enc* is the encrypted request file. Encrypted request files *must* have an extension of .**req.enc** or they will not be recognized as valid requests.

Errors in FTP Requests

If errors are detected in a request file (the file does not correspond to specifications), the request file is moved to the request filename appended with **.err** and the errors are written to the reply file (as specified by REPLYFILENAME in the header of the request file, which is described in the following section). Error checking is done immediately on the server, and if errors are found, the request is not sent to the backend machine.

For example, if a request file called ***prices.req*** was created to produce ***prices.out***, and ***prices.req*** had errors, the request file would be moved to ***prices.req.err,*** and a description of the errors would be contained in ***prices.out***.

FTP Requests - Internet

In order to ensure secure data transfer over the Internet, reply files are encrypted before being sent to Bloomberg's FTP servers. The 56-bit symmetric Data Encryption Standard (DES) algorithm is used to encrypt the reply files. Bloomberg supplies software for the decryption of the reply files, as well as the encryption key. (See Appendix A for copyright details.) The software is currently supported on the following operating systems: Windows 95, Windows 98, Windows 2000, Windows NT, Windows XP, AIX, AIX1, Solaris, Solaris 2.5, Solaris 2.6, OSF/1 (DEC Alpha), DG/UX and HP/UX. Files containing the DES software are available. Bloomberg will provide these files by putting them in the Notices folder of the client's home directory. These files are also available under the DLSD <GO> function of the BLOOMBERG PROFESSIONAL™. Users of Windows-based operating systems should use the des.exe software. DES files appropriate for the other operating systems have the operating system name included in the file name, (i.e., des-solaris). Further information is available in a des.readme file.

The command line is

des -D -u -k "xxxxxxxx" *replyfile.encrypted replyfile.clear*

The key is represented in the above as xxxxxxxx. The double quotes are required and the key is ***case-sensitive***. ***replyfile.encrypted*** is the encrypted reply file and the final decrypted (i.e. clear and readable) file is ***replyfile.clear***. If the encryption key contains a back-quote (`) (with the exception of international keyboards), single quotes should be used around the key instead of double quotes for proper decryption.

Some DOS applications require a carriage return as an end-of-line marker in files. In order to add this carriage return to the clear file (i.e. before it is encrypted), the header option FILETYPE=PC is required (See FILETYPE section). When the client decrypts the file, these carriage returns will be present.

Send File Requests

Send File is a method for sending request files via the BLOOMBERG PROFESSIONAL™ service. A Send File request has a limit of 80 characters per line.

The name and path of the file containing the requested data (reply file) is specified by the customer in the header of the request file and is returned to the user. If a reply file name is not specified, it will default to **reply.txt**. See note below under Errors in Send File Requests.

Send File Requests *must* follow the format below:

IMPORTANT NOTE: The following lines of code in the request file MUST be capitalized for the request file to process correctly:

START-OF-FILE
SYSTEM=DATA (This line is only used for Send File requests)
START-OF-FIELDS
END-OF-FIELDS
START -OF-DATA
END-OF-DATA
END-OF-FILE

START-OF-FILE
SYSTEM=DATA (This *must* be on the second line of the request file as shown.)
<File Header> (See File Header Section)
<List of Fields> (See Data Items Section)
<List of Securities> (See Securities Section)
END-OF-FILE

SYSTEM=DATA This *must* appear on the second line of the request file, immediately after START-OF-FILE. This tells the system that the file is a Data License Send File request, and without this line the file will never be processed.

The beginning of the request file should be similar to the following:

START-OF-FILE
SYSTEM=DATA
LOGIN=JOEBLOW
USERNUMBER=123456
SN=987654
WS=0
REPLYFILENAME=out.txt
PROGRAMNAME=getdata
LAUNCH=yes
…

END-OF-FILE

A customer can locate the numbers needed above by entering IAM <GO> on the BLOOMBERG PROFESSIONAL™ service. The number after **User**: is the

USERNUMBER. The first part of the number following **S/N**: (before the hyphen) is the SN, and the second part of **S/N**: (after the hyphen) is the WS number.

The request file will be uploaded through the BLOOMBERG PROFESSIONAL™ terminal; to do this, the proper file upload setting is required:

- Right-click on a Bloomberg screen and select **Terminal Defaults**
- Select the **Setup** tab
- Click the **Edit…** button next to "**Upload Type**"
- In the "Bloomberg Profiles" popup window, highlight "**Data License**" and click the OK button, then click the OK button on the "**Terminal Defaults**" popup.

To upload a request file, right-click on a Bloomberg screen and select **Upload File…**

Select the request file to be sent and click "**Open**". The Send File request will be transmitted.

Note: If "Data License" is not listed as an option under the "Bloomberg Profiles" popup window, please contact Technical Support for assistance.

Progress from this point may be monitored under the Bloomberg functions **RPT** (Report Menu) and **FTR** (File Transfer). As an output file is generating, its transmission progress is displayed on FTR. If LAUNCH=yes has been included in the file header, the reply file will be automatically opened by a PC application, depending on the file extension; otherwise, the file will be saved in the download directory without opening. The FTR monitor will hold a transferred file for seven days after initial creation. During this period the transferred file will be available for retransmission.

If there are errors in the request file, they will be returned in the reply file, unless there is an error with the serial number. In this case, an error file will *not* be returned, since the system will not know to which terminal the reply file should be sent.

Additional note: To specify a download directory (as opposed to the default), right-click on the BLOOMBERG screen and left-click "Terminal Defaults…" Under the "Setup" tab, click the "Edit…" button next to "Download Setup" Select the path where reply files should be saved in the "Save in:" box and click "Save." Then click "OK".

Errors in Send File Requests

If errors are detected in a request file, they are written to the reply file (as specified by REPLYFILENAME option which is described in the File Header Section). This error checking is done immediately and if errors are found, the request is not processed and the reply file is immediately returned.

If no REPLYFILENAME is specified in the request file, then the file is returned as reply.txt in the default directory as specified in the **Download Setup…** option on the BLOOMBERG PROFESSIONAL™ service (see "Additional note" above).

File names containing the following special characters are *not* valid:

` ~ ! @ # $ % & * ( ) [ ] ,
{ } ; ‘ “ > < / ? | =

Spaces are also not permitted in Send File Request file names or REPLYFILENAME.

Scheduled Requests

In the case of scheduled requests, reply files are transferred, on a daily, weekday, weekend, weekly, or monthly basis, from the backend machine to the FTP server (see the PROGRAMFLAG option in File Header Section). In the case of Send File, the reply files are transferred to the download directory of the BLOOMBERG PROFESSIONAL™ through which the request was scheduled. Multiple scheduled requests can be set up. A different scheduled reply file will be generated for each unique reply file name. Files will be generated as scheduled until cancelled by the user.

To edit securities or fields in a scheduled request, the client must send another request file, listing new securities or fields under the same REPLYFILENAME as the original reply file. A request with a different REPLYFILENAME will be treated as a new scheduled file and the original will continue to run without changes.

Canceling Scheduled Requests

It is possible to cancel a scheduled job by sending a request file with PROGRAMNAME=cancel. Clients must ensure that the cancel file has the exact same REPLYFILENAME and PROGRAMFLAG as the scheduled reply file. For example, to cancel a daily job which returns data in the file corps.out, set

REPLYFILENAME=corps.out
PROGRAMFLAG=daily
PROGRAMNAME=cancel

It is also possible to cancel all currently scheduled files by sending a request with PROGRAMNAME=cancel_all. Each individual reply file name must be listed between START-OF-DATA and END-OF-DATA.
For example, to cancel files named ABC.out, DEF.out and GHI.out, the request file must include the following:
PROGRAMNAME=cancel_all
PROGRAMFLAG=daily

START-OF-DATA
ABC.out
DEF.out
GHI.out
END-OF-DATA
END-OF-FILE

Linking to a Bloomberg Terminal

FTP clients whose firms subscribe to the BLOOMBERG PROFESSIONAL™ service have the option of linking their data license account to their BLOOMBERG terminal to take advantage of personal defaults (for example, third party pricing for fixed income, real-time exchange pricing, etc.). This can be hard-coded for a permanent link by contacting our technical support desk, or this can be done on a case-by-case basis by amending the request file header.

To link to a terminal, the following lines need to be added to the file header:

USERNUMBER=
WS=
SN=

A customer can locate the numbers needed above by entering IAM <GO> on the BLOOMBERG PROFESSIONAL™ service. The number after "User" is the USERNUMBER. The first part of the number following "S/N:" (before the hyphen) is the SN and the second part of "S/N:" (after the hyphen) is the WS number.

If linking to a BBA (Bloomberg Anywhere) terminal, only the USERNUMBER should be included in the header of the request file. Including SN and WS could negatively impact the processing of the request.

Note: If you receive the following return in your output file, please contact your account representative for assistance:

 # SN and/or user number not in the same firm as dlxxxxxx

Software Roll-Out

When a new beta version of the software used to generate the data returned by Data License request programs is available, clients can process with it through use of the header option VERSION=new (See File Header Section). Please note that if this version of the software is requested, the results will not be as reliable as the production version of the software. Beta versions of software are typically moved into production weekly; this is not guaranteed.

Request Files

This section outlines the basic file format for the different types of requests that can be made. Request files must be printable ASCII characters only; no binary characters or special escape sequences are allowed. DOS files, which contain an additional carriage return as the end-of-line marker, are accepted. Other file formats (e.g. - Word, Excel) are *not* accepted. The default delimiter character used in request files is "|" (UNIX pipe).

Request files ***must*** follow this format:

START-OF-FILE
<File Header> (See File Header Section)
<List of Fields> (See Data Fields Section)
<List of Securities> (See Securities Section)
END-OF-FILE

START-OF-FILE - Tells the system where to begin reading a file. This ***must*** be the first non-blank in the file.

END-OF-FILE - This record closes out the whole file. It ***must*** be the last record in the file. If it is not in the file, the request will not be recognized as valid and will never be processed.

Blank lines may appear freely within a request file and will always be ignored, regardless of their position within the file after START-OF-FILE. Lines may also be commented out in request files; any line that starts with # will indicate a comment line and be replicated in the reply file.

END-OF-FILE is the last line the system will read during processing; any text following END-OF-FILE will be ignored.

File Header

The following table contains variables or header options that may appear in the header section of request files. The second column, "Program Names", lists the program(s), to which the header options apply; if "all programs" is the return, this indicates **getdata, gethistory, getticks, getallticks, getquotes**, **getallquotes** and **scheduled**. The third column gives the default value for each header option. The fourth and fifth columns indicate which variables are required and which are optional for the two types of request file mechanisms.

The header section of the file can be changed without notice. Each header option is described in more detail below. Header options must be entered into the request file in upper case. Bloomberg Data License may insert comments into the header section of a reply file at any time.

Header Option	Program name	Default	FTP[1]	Send File[1]
ACTIONS	getactions	all	optional	optional
ACTIONS_DATE	getactions	entry	optional	optional
ADJUSTED	Getfundamentals	yes		

Header Option	Program name	Default	FTP[1]	Send File[1]
CLOSINGVALUES	Getdata	no	optional4	optional[4]
COLUMNHEADER	Getdata, getsnap	no	optional	optional
COMPRESS	All programs	variable	optional	optional
CONSOLIDATED	Getfundamentals	yes		
CREDITRISK	getcompany,getdata	No	optional	Optional
CURRENCY	gethistory, getcompany, getfundamentals		optional	optional
DATEFORMAT	getactions, getdata, gethistory, getsnap	mmddyyyy	optional	optional
DATERANGE	All programs (except getdata and getsnap)	No default	optional	optional
DATETIMERANGE	getquotes, getallquotes	No default	optional	optional
DELIMITER	getdata, getcompany, getfundamentals, getsnap	| (UNIX pipe)	optional	optional
DERIVED	getdata	no	optional4	optional[4]
DIFFFLAG	getdata	no	optional	optional
DISPLAY_PRICING_SRC	gethistory	no	optional	optional
DISPLAYQRMDATE	getquotes, getallquotes	no	optional	optional
ESTIMATES	getdata	no	optional[4]	optional[4]
EXCLUSIVE_PRICING_SRC	getdata, gethistory, getsnap	no	optional	optional
FILETYPE	All programs	UNIX	optional	n/a
FIRMNAME	All programs	No default	required	optional
FILINGSTATUS	getfundamentals	Mostrecent	optional	optional
HEADER	All programs (except scheduled)	yes	optional	optional
HIST_CRNCY	getdata, gethistory	no	optional	optional
HIST_FORMAT	gethistory	vertical	optional	optional
HIST_PERIOD	gethistory	Smallest period	optional	optional
HIST_OPTION	gethistory	No default	optional	optional
HISTORICAL	Getdata	no	optional[4]	optional[4]
LAUNCH	All programs	no	n/a	optional
LOGIN	All programs	No default	n/a	required
MATCHGETTICKSCOLS	Getallquotes	No	optional	optional
OUTPUTFORMAT	Getdata, getsnap	variable	optional	optional
PERIODICITY	getfundamentals	y (year)	optional	optional
PORTSECDES	All programs (except scheduled)	No default	optional	optional
PRICING_SOURCE	getdata, gethistory, getsnap	No default	optional	optional
PROGRAMFLAG	All programs (except scheduled)	oneshot	optional	optional
PROGRAMNAME	All programs	getdata	optional	optional
PRP	All programs (except scheduled and getsnap)	No default	optional	optional
QUOTECOMPOSITE	getdata	no	optional	optional
REPLYFILENAME	All programs	See note[2]	optional	optional
REPORT	getdata, gethistory, getticks, getallticks, getsnap	no for FTP, yes for Send File	optional	optional
RUNDATE	All programs	Today	optional	optional
SECDES_FIRST_COL	getquotes, getallquotes	no	optional	optional
SECDESLENGTH	Getdata, getsnap	30	optional	optional
SECID	All programs (except scheduled)	No default[3]	optional	optional
SECMASTER	Getdata	no	optional[4]	optional[4]
SKIP_PCS	Getdata	No default	optional	optional
SN	All programs	No default	optional	required
SPECIALCHAR	Getdata, getsnap	decimal	optional	optional

Header Option	Program name	Default	FTP[1]	Send File[1]
SYSTEM	All programs	No default	n/a	required
TICKADJUSTDATE	getticks, getallticks	no	optional	optional
TICKEXCHLENGTH	getticks, getallticks	1	optional	optional
TICKLOCALTZ	getticks, getallticks	no	optional	optional
TICKOUTPUTTZ	getquotes, getallquotes	Account time zone	optional	optional
TIME	All programs(except getsnap	No default	optional	optional
USERNUMBER	All programs	No default	optional	required
VERSION	All programs (except scheduled)	No default	optional	optional
WS	All programs	No default	optional	required
YELLOWKEY	All programs (except scheduled)	No default	optional	optional

[1] For the request file mechanism (FTP or Send File) that applies, please see Request File Mechanisms Section.
[2] For FTP requests, the default is *<request>.out*, where *<request>* is the request file name less the "*.req*" extension. For Send File requests, the default is *reply.txt* .
[3] For a list of valid values for SECID, please see File Header Section.
[4] The header options CLOSINGVALUES, DERIVED, SECMASTER, ESTIMATES or HISTORICAL *must* be selected for getdata requests from their respective categories, otherwise N.S. (Not Subscribed) will be returned instead of data. They need not be selected if data from the category type they represent is not requested.

ACTIONS (optional) - This only applies to the getactions program. This can be used as a filter to request only certain actions or categories of actions. For example, it is possible to request a single action type, such as Acquisitions. It is also possible to request a category of actions along with a single action from another category like Distributions and Mergers. To achieve this, users would specify a "pipe" delimited list of mnemonics (e.g., ACTIONS=DISTRIBUTIONS | MERG). For a list of corporate actions, and categories see the Corporate Actions Reference Guide. For information about the getactions program, see the Getactions Section later in this manual.

ACTIONS_DATE (optional) - This flag only applies to the getactions program. This option allows customers to request corporate actions based on different dates. It can be set to the following values:

entry - The date the corporate action was entered into the Bloomberg database. If DATERANGE is not used, the system will look for actions entered into the database during the previous 24 hours. This is the default value.

effective - The effective date of the corporate action. If DATERANGE is not used, this will default to the current day.

both - This incorporates both the entry and effective options.

ADJUSTED (optional) – This only applies to the getfundamentals program. Provides the ability to request fundamental data that is adjusted for corporate actions such as stock splits, stock dividends, and rights offerings. ADJUSTED=**yes** for adjusted fundamentals and ADJUSTED=**no** for non-adjusted fundamentals. The fields that will be affected are per share fields such as (IS_EPS:Earnings Per Share) or dividend fields such as (EQY_DPS Dividends Per Share).

CLOSINGVALUES (optional) – This option only applies to the getdata program. It allows customers to request data via fields from the End of Day Pricing category.

(Please see Data Dictionary to determine field category). If SECMASTER=yes is already in the header, this option need not be selected. If neither SECMASTER nor CLOSINGVALUES is selected, a getdata request will return **N.S.** for an End of Day Pricing field.

COLUMNHEADER (optional) - This option applies to the getdata and getsnap programs. The default is no; if set to yes, the output file will return the title of each column of data. For example, if the fields PX_BID, PX_MID, and PX_ASK were requested, the following row would appear above the data:

<Identifier>|<Rcode>|<Nfields>|PX_BID|PX_MID|PX_ASK|

The above "pipe" delimiter can be changed using the DELIMITER= option.

COMPRESS (optional) - This option returns the requested data file compressed by the UNIX tool gzip. Files may be decompressed using gunzip or Winzip. The output files of clients with an internet connection are automatically encrypted. Internet clients using COMPRESS=yes will need to decrypt first and decompress second. ***Note: The getticks, getallticks, getquotes, getallquotes and gethistory program output files will AUTOMATICALLY be compressed - the COMPRESS=no option is not available for these programs.***

CONSOLIDATED (optional) – This only applies to the getfundamentals program. CONSOLIDATED=**yes** is for consolidated and CONSOLIDATED= **no** is for non-consolidated data. For Parent only companies, the Parent data will be returned when CONSOLIDATED=yes is in the request file

CREDITRISK – This is required for the getcompany program. For the full list of available fields, please see crisk_fields.csv, which can be found in the root directory of client FTP servers.
This is optional for the getdata program. CREDITRISK=**yes** will allow clients to obtain company level credit risk data via the getdata program. Credit Risk fields that are available via the getdata program can be found in fields.csv where Data License Category is Credit Risk.

CURRENCY (optional) – This option is for the getfundamentals program. It allows users to specify the currency of the fundamental data. The default currency will be as per the company/securities default currency indicated by the data field EQY_FUND_CRNCY.

DATEFORMAT (optional) - This controls the format of dates. DATEFORMAT defaults to mmddyyyy. There are fourteen optional formats available:

mmddyy	04/28/00	**yyddmm**	0/28/04	**mmyydd**	04/00/28
ddmmyy	28/04/00	**yyyyddmm**	2000/28/04	**mmyyyydd**	04/2000/28
yyyymmdd	20000428	**yymmdd**	00/04/28	**ddyymm**	28/00/04
mmddyyyy	04/28/2000	**yyyy/mm/dd**	2000/04/28	**ddyyyymm**	28/2000/04
dd-mmm-yy	28-Apr-00	**ddmmyyyy**	28/04/2000		

DATERANGE (optional) - This option allows control over the date range used for securities in the getactions, getticks, getallticks, getquotes, getallquotes, getfundamenetals, and gethistory programs. The possible uses of this header option are as follows:

- DATERANGE**=r**

where r is an integer specifying the actual number of days - not number of business days - from the current day. For example DATERANGE=7

The default DATERANGE value for getquotes, getallquotes, getticks and getallticks is 0; data from the current day will be returned.
For example, DATERANGE=1

ARSUSD Curncy|0|2|08/11/2010|0.2536|
ARSUSD Curncy|0|2|08/12/2010|0.2535|

And DATERANGE=0

ARSUSD Curncy|0|2|08/12/2010|0.2535|

- DATERANGE=***date1*|*date2***

where ***date1*** (start date) and ***date2*** (end date) are in the format yyyymmdd. For example, DATERANGE=19950101|20050101

In gethistory, the DATERANGE can also be specified for individual securities. The format is <Security Identifier>||<date1>|<date2>| where **date1** (start date) and **date2** (end date) are in the format yyyymmdd.

For example, IBM US Equity||20080101|20081231|

DATETIMERANGE (optional) – This option allows control over the date and time range used for securities in the getquotes and getallquotes programs. This option is limited to a single calendar day (i.e. 00:00-23:59). DATETIMERANGE and DATERANGE are mutually exclusive header options. The two possible uses of this header option are as follows:
1. DATETIMERANGE=date1_time1|date2_time2|region name

Dates are in the format yyyymmdd. Times are in the format hh:mm:ss. Region name is in the format XX. For example,
DATETIMERANGE=20090209_07:00:00|20090209_15:30:00|NY

The possible choices for region name are NY, LO and TO

2. DATETIMERANGE=date1_time1|date2_time2|region number

Dates are in the format yyyymmdd. Times are in the format hh:mm:ss. Region number is in the format of TZDF<go>, found on your Bloomberg terminal, or listed in Appendix F.

DATETIMERANGE=20090209_07:00:00|20090209_15:30:00|3

There is an optional parameter to account for Daylight Savings Time (DST) in the DATETIMERANGE header option. Appending /DST or /NODST will adjust the output time accordingly.

* DATETIMERANGE=date1_time1|date2_time2|region name/NODST
* DATETIMERANGE=date1_time1|date2_time2|region number/NODST
* DATETIMERANGE=date1_time1|date2_time2|region name/DST
* DATETIMERANGE=date1_time1|date2_time2|region number/DST

DELAY_LIMIT (optional) – This option only applies to the getsnap program and allows additional controls to be imposed on a request file containing securities with mixed embargo times. This header allows the user to control the output file preventing a security with a long embargo period from restricted the return of the output. For example, DELAY_LIMIT=30 will return the file within 30 minutes and ignore any embargos greater than 30 minutes. In these cases, N.A. would be returned instead of a price.

DELIMITER (optional) - This allows the specification of the delimiter that is used. Any single ASCII character may be used except for " (a double quote) and a blank. The default delimiter is "|" (UNIX pipe). This option will be ignored if OUTPUTFORMAT is set to anything other than variable, which is the default. Only the first character after the equal sign is used. For example:

DELIMITER=,	Commas will be used
DELIMITER=#$	# will be used ($ is ignored)

For samples, please see Appendix C. Note, if a delimiter is specified and it is not a "|" (UNIX pipe), all text fields will be surrounded with double quotes.

DERIVED (optional) – This option only applies to the getdata program, and allows customers to request data via fields from the Derived Data category. (Please see Data Dictionary to determine field category). Without DERIVED=yes in the header, a getdata request for Derived Data fields will return **N.S.**

DIFFFLAG (optional) - This controls the Bloomberg output being sent back to the customer. It is applicable to scheduled files (see the PROGRAMFLAG variable later in this section) using the getdata program **ONLY**. Bloomberg can send only the changes from the previous reply file. DIFFFLAG defaults to "no" and has the following valid values:

no - This means that *all* output (unmodified) will be sent to the customer.

yes – The file generated will contain the output of the UNIX "diff" utility. In cases where something has changed, this "diff" will provide full records from the previous reply file and the current reply file. New securities will be apparent, as there will be no previous record. Deleted securities will be apparent, as there will be no current security. The customer can reconstruct the current reply file by combining the previous reply file with the changes that Bloomberg has sent. Bloomberg only recommends this option if users are familiar with the UNIX "diff" utility and are confident they can reconstruct the file.

Smaller – The output retrieved will be compared against the most recently generated data using the UNIX diff utility and the smaller of the two files (the current reply file and the diff'ed output) is returned

changes - As with the **yes** option, the UNIX diff utility will be used to compare the previous reply file to the current reply file. In this case, the file sent to the customer will contain only additional securities and securities that have received an update. The full record of each security will be sent. Deletes will not be represented.

In output files, the DIFFFLAG line will be returned between TIMESTARTED and START-OF-DATA.

Example request header:

START-OF-FILE

RUNDATE=20050518
FIRMNAME=dl123456
FILETYPE=pc
REPLYFILENAME=difftest.out
DIFFFLAG=changes
PROGRAMFLAG=weekday
SECMASTER=yes
PROGRAMNAME=getdata

Example output file:

```
TIMESTARTED=Wed May 18 11:48:52 EDT 2005
DIFFFLAG=changes
START-OF-DATA
IBM US Equity|0|3|INTL BUSINESS MACHINES CORP|1613.321|.740|
MSFT US Equity|0|3|MICROSOFT CORP|10804.354|3.320|
INTC US Equity|0|3|INTEL CORP|6173.000|.240|
END-OF-DATA
TIMEFINISHED=Wed May 18 11:48:53 EDT 2005
END-OF-FILE
```

DISPLAY_PRICING_SRC (optional) – This option is available in gethistory for Corp, Pfd, Govt, Muni and Mtge securities. If this option is used, the PRICING_SOURCE will be returned in the output file.

DISPLAYQRMDATE (optional) – This option is available for getquotes and getallquotes. This option controls the date for each tick. Set to 'yes', the date will mirror the trade dates on the QR/QRM functions on the BLOOMBERG PROFESSIONAL™ service.

ESTIMATES (optional) – This option is available for getdata and needs to be set to YES in order for Bloomberg Estimates (BEst) and Bloomberg Dividend Forcast (BDVD) fields to populate. These fields are assigned a Data License Category of "Estimates".

EXCLUSIVE_PRICING_SRC (optional) – This option applies to bonds requested via the getdata,gethistory and getsnap program, and allows an exclusive pricing source to be designated when using a PRICING_SOURCE override. If the exclusive source is not available, all fields in the End of Day Pricing and Derived Data field categories will return 'N.A.' for that security. Return code 989 will be returned if the client is not privileged to see the pricing source requested. Security level overrides will take priority over the header option override when they are used concurrently.

The following override formats are supported for EXCLUSIVE_PRICING_SRC=yes.

Header option: PRICING_SOURCE=ABCD
Security level overrides: 123456789 Corp||1|PRICING_SOURCE|ABCD|

Below are sample request and output files to illustrate this new header option.

Request File: Using PRICING_SOURCE= Header Option

```
START-OF-FILE
FIRMNAME=dl123456
FILETYPE=pc
REPLYFILENAME=epsheader.out
CLOSINGVALUES=yes
DERIVED=yes
SECMASTER=yes
PROGRAMNAME=getdata
PRICING_SOURCE=BGN
EXCLUSIVE_PRICING_SRC=yes

START-OF-FIELDS
PX_LAST
PRICING_SOURCE
END-OF-FIELDS

START-OF-DATA
US931142CF89 Corp
END-OF-DATA
END-OF-FILE
```

Output File: Using PRICING_SOURCE= Header Option

```
START-OF-FILE
RUNDATE=20081003
PROGRAMFLAG=oneshot
FIRMNAME=dl123456
FILETYPE=pc
REPLYFILENAME=epsheader.out
CLOSINGVALUES=yes
DERIVED=yes
SECMASTER=yes
PROGRAMNAME=getdata
PRICING_SOURCE=BGN
EXCLUSIVE_PRICING_SRC=yes

START-OF-FIELDS
PX_LAST
PRICING_SOURCE
END-OF-FIELDS

TIMESTARTED=Fri Oct  3 09:33:20 EDT 2008
START-OF-DATA
US931142CF89 Corp|0|2|103.206971|BGN|
END-OF-DATA
TIMEFINISHED=Fri Oct  3 09:33:26 EDT 2008
END-OF-FILE
```

Request File: Using Security Level Override

```
START-OF-FILE
FIRMNAME=dl123456
FILETYPE=pc
REPLYFILENAME=epssec.out
CLOSINGVALUES=yes
DERIVED=yes
SECMASTER=yes
PROGRAMNAME=getdata
EXCLUSIVE_PRICING_SRC=yes


START-OF-FIELDS
PX_LAST
PRICING_SOURCE
END-OF-FIELDS

START-OF-DATA
US931142CF89 Corp||1|PRICING_SOURCE|BGN|
END-OF-DATA
END-OF-FILE
```

Output File: Using Security Level Override

```
START-OF-FILE
RUNDATE=20081003
PROGRAMFLAG=oneshot
FIRMNAME=dl123456
FILETYPE=pc
REPLYFILENAME=epsnoticesec.out
CLOSINGVALUES=yes
DERIVED=yes
SECMASTER=yes
PROGRAMNAME=getdata
EXCLUSIVE_PRICING_SRC=yes

START-OF-FIELDS
PX_LAST
PRICING_SOURCE
END-OF-FIELDS
START-OF-DATA
US931142CF89 Corp|0|2|103.206971|BGN|
END-OF-DATA
END-OF-FILE
```

FILETYPE (optional) - *This option applies to Internet customers only*! If FILETYPE = PC, then a carriage return is added to the end of each line of the reply file before it is encrypted. This allows the decrypted file to be opened in various DOS applications which require the carriage return to signal the end of a line.

FILINGSTATUS (optional) – This option applies to the getfundamentals program. It allows the user to select the type of filing required. Options are:

- **Mostrecent** for Most Recent (default setting)
- **Prelim** for Preliminary
- **Original** for Original

- **Restated** for Restated
- **ALL for all of the above filing types, Mostrecent, Preliminary, Original, and Restated**

FIRMNAME (required for FTP only) - This is the login name assigned by Bloomberg. If a client sends an FTP request file with an incorrect FIRMNAME, it will be returned as an error. The FIRMNAME value is **case-sensitive**. For example,

FIRMNAME=dl123456

HEADER (optional) - This allows customers to specify if the header should be returned in the reply file. This option can be set to either yes, no or timeonly, where yes is the default.

- If **HEADER=no** is specified, only the data between START-OF-DATA and END-OF-DATA is returned; if **HEADER=no** is used in conjunction with **COLUMNHEADER=yes**, the first line of the output file will be

  SECURITIES|ERROR CODE|NUM FLDS|
- If **HEADER=timeonly** is specified, the TIMESTARTED and TIMEFINISHED lines will be included in the output file.

HIST_CRNCY (optional) – This option allows for the specification of a desired currency for history requests. It applies only to historical data and can be used in both the getdata and gethistory programs. It is available for use in the getdata program only with the single-point history fields listed in the Getdata Section. Both ISO codes and Bloomberg sub-currency codes (GBp, ZAr, etc.) are available for use with this option. This option is not applicable to all securities in all cases.

HIST_FORMAT (optional) – This option will alter the output format of a gethistory request. The default **vertical** format separates the data by field requested and can be considered vertical in appearance. In the default format each field becomes a header over its related dates and values. The **horizontal** format combines the output of all fields into a single record per date for each security. If HIST_FORMAT=horizontal is specified and the requested field is not available in gethistory, the field will return N.A.
Please see the gethistory section for examples.

HIST_PERIOD (optional) - Sets the periodicity of gethistory requests. The default behavior is to provide the smallest period available for the data requested. Possible valid values are **d** (daily), **w** (weekly, Friday), **m** (monthly, last day of month), **q** (quarterly, last day of the quarter), **y** (yearly, last day of the year).

HIST_OPTION (optional) - This allows users of the gethistory program to retrieve historical averages for the date range and period specified. The only valid value is "average." HIST_PERIOD must be set to weekly or greater.

HISTORICAL (optional) - This option is for the getdata program only, and needs to be set to YES (HISTORICAL=yes) for Historical Time Series fields; otherwise, **N.S**. will be returned. (Please see Data Dictionary to determine field category).

LAUNCH (option for Send File only) - This value may be set to **yes** or **no**; no is the default. If it is set to yes, upon transfer of the reply file, an attempt will be made to open the reply file using the appropriate application. The reply filename extension determines which application will be launched; this association is usually handled automatically by the operating system or can be set by the customer on his/her own PC.

LOGIN (required by Send File only) - This is the login name of the user on the BLOOMBERG PROFESSIONAL™ service. For example,

LOGIN=JSMITH

MATCHGETTICKSCOLS (optional) – This option controls the output layout for the getallquotes program. Set to 'yes', the output format (columns) will match getallticks. *To enable this option using the Request Builder software, set 'Use Getticks Format' to 'yes'.*

OUTPUTFORMAT (optional) - This option controls the format of output files created with the getdata and getsnap program. Three specifications exist:

bulklist - This option applies to bulk fields only in the getdata program (See Getdata Section). When this is specified, each entry in the bulk field is listed, one per line. This option will work if *only bulk fields* are requested; if bulk and non-bulk fields are requested within the same file, the option will be ignored.

fixed - This option separates each column without using a delimiter. It is based solely on spacing (see the section called Data Items (Fields) for more information on specifying field widths). See Appendix C for examples.

variable - This is the default. Field information is returned separated by the specified delimiter (or the default UNIX pipe). Each field is returned with the delimiters separating them without any extra spaces before or after the data. See Appendix C for examples

PERIODICITY (optional) – This option applies to the getfundamentals program. This allows the user to select the fundament periods for the output file. Options are:

- **y** returns fundamentals by year (default setting)
- **q** returns fundamentals by quarter
- **s** returns fundamentals by semi-annual periods
- **a** returns all fundamentals periods reported
- **c** returns fundamentals by cumulative quarterly

PORTSECDES (optional) - This option may be used to specify the way in which the security description is returned in the reply file when a PRTU<go> PORTFOLIO macro is used. By default, the data in the field SECURITY_DES is returned in the first column, but when this option is set to **adjusted**, the identifier is returned as it appears on the Bloomberg in the portfolio.

PRICING_SOURCE (optional) – This option may be used to specify a PRICING_SOURCE override rather than overriding individual PRICING_SOURCE in a request file. This override will be applied to all securities listed between START_OF_DATA and END_OF_DATA. Third party pricing sources may require to a privileged BLOOMBERG PROFESSIONAL™ terminal. Please see page 14 for details on linking. IF there is no pricing source override and the request file is not linked to a specific user, then the following Pricing Source hierarchy is used:

FixedIncome:	Preferreds:	Currency:	Mtge:	Muni:
BGN	EXCH	BGN	BGN	BFV
BFV	BGN	CMPN		
EXCH	BFV			

PROGRAMFLAG (optional) - This flag determines how often to process the request. There are six values currently available. If this option is not specified, it will default to **oneshot**.

oneshot - This specifies that the request is to be run one time only. The request is serviced immediately, unless otherwise specified (see TIME and RUNDATE variables).

daily - This specifies that the request is to be processed daily at a certain time (see TIME variable below).

weekly – This specifies that the request is to be processed weekly, on the same day of the week the initial request was submitted. Time of day can be selected using the TIME variable.

monthly – This specifies that the request is to be processed monthly, on the same day of the month the initial request was submitted. The day of the month can be selected using the RUNDATE variable, and time of day can be specified using the TIME variable.

weekday - This specifies that the request is to be processed on Monday through Friday only. This option can be used in conjunction with TIME and RUNDATE variables, and is valid for all programs. It looks at an account's region (New York, London or Tokyo) in order to base the day on the applicable time zone.

weekend - This specifies that the request is to be processed on Saturday and Sunday only. This option can be used in conjunction with TIME and RUNDATE variables and is valid for all programs. It looks at an account's region in order to base the day on that time zone.

If the TIME variable is not used in a scheduled request, the file will immediately process at the time the request is received by Bloomberg, and will thereafter run at **0000** (midnight) of the local region.

PROGRAMNAME (optional) - This names the program to be run by Bloomberg. The following are available programs:

getdata - This program retrieves various data fields from the database(s) for the specified list of securities. See the Getdata Section for further information.

gethistory - This program retrieves various historical data fields from the database(s) for the specified list of securities within the given date range. See the Gethistory Section for further information, including the list of fields available for this program.

getticks - This program retrieves price and volume trade ticks for the specified list of securities within the given date range. A maximum of 50 business days of ticks is available. See Getticks Section.

getallticks - This program retrieves price and volume ticks (including matched bids and asks) for the specified list of securities within the given date range. A maximum of 50 business days of ticks is available. See Getallticks Section.

getquotes - This program returns every last sale (price level at which trades were executed) time stamped with date, hour, minute and second. Bloomberg currently supports a maximum of 3 trading days of tick data in the Getquotes program. See Getquotes Section.

getallquotes – This program is similar to the getquotes program except that in addition to returning every last sale (price level at which trades were executed), matching ask and bid prices are returned, time stamped with date, hour, minute and second. See Getallquotes Section.

getactions - This program retrieves one day's worth of corporate actions for a specified list of securities (and the issuer of these securities). See Getactions Section.

getcompany – This program returns company/entity level data such as industry classification, country of risk, and country of domicile for a given security/company ID. For the full list of fields available via this program, please see crisk_fields.csv.

getfundamentals – This program returns company fundamental data, both current and historical, with the additional ability to select the periodicity of the data.
See Getfundamentals Section.

getsnap – This program returns pricing data with higher precision at a specified time or valuation point for Equities, Fixed Income securities and all other asset classes which generate tick data from the tickerplant. See Getsnap Section.

cancel - This program cancels a currently running scheduled request file. To cancel, send a second request with REPLYFILENAME equal to that of the scheduled reply file. For example, to cancel a daily job that returns data in the file corps.out, set

REPLYFILENAME=corps.out
PROGRAMFLAG=daily
PROGRAMNAME=cancel

cancel_all – This program can be used to cancel a list of currently running scheduled request files. Each individual reply file name must be listed between START-OF-DATA and END-OF-DATA.
For example, to cancel files named ABC.out, DEF.out and GHI.out, the request file must include the following:

```
PROGRAMNAME=cancel_all
PROGRAMFLAG=daily

START-OF-DATA
ABC.out
DEF.out
GHI.out
END-OF-DATA
END-OF-FILE
```

scheduled - This program returns a report containing all request files that are currently scheduled. Only the required Header Options noted in the File Header Section and the START-OF-FILE and END-OF-FILE line are needed in a request file with PROGRAMNAME set to this value. This is always treated as a oneshot request.

A request file will look like this:

```
START-OF-FILE
FIRMNAME=dl123456
REPLYFILENAME=scheduled.out
PROGRAMNAME=scheduled
END-OF-FILE
```

If the PROGRAMNAME option is not specified, it will default to getdata. See Data Dictionary Section for information regarding a list of fields that are applicable to the above programs.

PRP (optional) – This is the PRP Setup number. The PRP Setup number can be found on the BLOOMBERG PROFESSIONAL™ service. Enter **PRP <GO>** and choose the number of the applicable report, found on the left of the Portfolio Report Table under the column header "RUN". This option can be used with or without the PRTU<go> PORTFOLIO Macro type described in the Wildcards section. Clients also have the option of requesting additional fields between START-OF-FIELDS and END-OF-FIELDS. The output file will return the additional requested fields, along with those from the PRP setup.

QUOTECOMPOSITE (optional) - This option is for the getdata program only, and needs to be set to YES (QUOTECOMPOSITE=yes) for the Bond Quote Composite field (BOND_QUOTE_COMP) and/or the Historical Bond Quote field (HISTORICAL_BOND_QUOTE) to populate. There are two mandatory overrides that must be used in conjunction with this header option when requesting HISTORICAL_BOND_QUOTE:
BOND_QUOTE_COMPOSITE_DATE : This is the date for which bond quote historical prices are to return, format YYYYMMDD.
BOND_QUOTE_COMPOSITE_TIME: This is the time for which bond quote historical prices are to return, format HH:MM[:SS] where :SS is an optional parameter. The time is to be specified in the local time of client account region. For accounts linked to a specific Bloomberg Terminal login, the time will be as per the settings on TZDF<GO>.

REPLYFILENAME (optional) - This specifies the name of the file that will be created to contain the output of a data request. The filename can be any string not exceeding 12 characters for Send File and 25 characters for FTP. It should not contain any blanks or any of the following characters:

‘ ~ ! @ # $ % & * ( ) [ ]

{ } ; ‘ “ > < / ? | =

Additionally, the colon (":") and backslash ("\") are not allowed for FTP requests, but are allowed for Send File requests. If a reply file name is the same as a file run earlier in the day, the new file would have the name with a number appended to the file name. For example, abc.out.20090511
abc.out.20090511.1

If not specified, REPLYFILENAME defaults to the request filename with **.out** as the extension in place of **.req** for FTP, and it defaults to **reply.txt** for Send File. For example, a request file called **test.req** that contains no REPLYFILENAME will return **test.out** for FTP requests; the same request file run via Send File will return **test.txt**.

If a reply file's name contains the above-listed invalid characters, or ends in either .req or .req.enc, the request file will be moved to the request filename appended with **.err**

REPORT (optional for FTP, standard for Send File) – The possible values are *no, yes*, and *only*.

no – This is the default for FTP requests; no report will be sent.

yes – This is standard for Send File and optional for FTP. A report table is created and returned alongside the replyfile. The report provides a count of the valid securities returned in the replyfile. For FTP this table will be provided as a separate file with .report as the extension. For Send File this table is listed under the RPT <GO> function of the BLOOMBERG PROFESSIONAL™.

only – Only the report table with the security counts is returned; no replyfile will be generated.

RUNDATE (optional) - This option controls the date on which requests are processed. For requests scheduled with a frequency made available under the PROGRAMFLAG option, RUNDATE specifies the date on which the job will begin. The date cannot be more than seven days in the future.

The syntax is **RUNDATE=YYYYMMDD**, where YYYY is the year including century, MM is the month and DD is the day. For example, to start a request on June 30, 2009, set

RUNDATE=20090630

This option can be used in conjunction with the TIME or SNAPTIME option. If no TIME is specified, the file will start at 00:00 of the date specified, or immediately if the date is current day.

In every reply file, RUNDATE is returned in the header as the second line, below START-OF-FILE.

SECDES_FIRST_COL (optional) – This option in getquotes and getallquotes controls whether the ticker/identifier is next to each tick or is displayed once for each security in the file. This option defaults to 'no'.
To set this option using the Request Builder software, check the 'Sec.Des. Column' option.

SECDESLENGTH (optional) - This option allows specification of the length of the security description in the reply file. The security description is the first data column that is returned and valid values for this number are 1 through 32. For example:

SECDESLENGTH=8	Security description of 8 characters
SECDESLENGTH=100	This will default to the maximum width of 32 characters

For sample files, please see Appendix C.

SECID (optional) - This option allows the specification of a default security identifier (see Data Items section). If an alternate security identifier is specified for a security, this option is ignored for that security. For example, if the bulk of the securities are being requested by ISIN number, SECID=ISIN may be stated in the header and only the ISIN numbers need to be specified in the data section for each record. In the example below, TICKER and SEDOL are assigned as alternate identifiers; the remaining numbers will process as ISIN:

```
SECID=ISIN
…
START-OF-DATA
US4592001014
US8855351040
CT30 Govt|TICKER|
2346070|SEDOL|
DE0005245500
JP3592200004
…
END-OF-DATA
```

The security identifier must be one of the following:

AUSTRIAN	CZECH	JAPAN
BB_UNIQUE	DUTCH	LUXEMBOURG
BELGIAN	EUROCLEAR	SEDOL
CATS	FRENCH	SPAIN
CEDEL	IRISH	TICKER
CINS	ISIN	VALOREN
COMMON_NUMBER	ISRAELI	WPK (Wertpapier Kenn-nummer)
CUSIP	ITALY	BB_COMPANY (getcompany only)
BB_GLOBAL		

If the wrong SECID is provided, the output file will contain return code 10 (for “security not found”). In the above example, if an ISIN was incorrectly identified as a sedol -

```
JP3592200004|SEDOL
```

the resulting output file would return

```
JP3592200004|10|…
```

If requesting equity securities by their CUSIP identifiers, it must be specified that the identifier being used is a CUSIP. By way of example, the CUSIP for IBM’s common stock is 459200101. In a request file, one of the following formats must be used:

459200101|CUSIP
459200101 Equity|CUSIP

in order for the security to be recognized for processing.

When requesting by TICKER, the market sector must be specified; see YELLOWKEY section below.

When both SECID= and YELLOWKEY= options are specified, SECID= option takes precedence. For example, if SECID=CUSIP and YELLOWKEY= Mtge, if CUSIP 912828KD1 is requested, data will be returned even though it is not a Mtge security/.

The length of a security identifier cannot exceed 32 characters. Therefore <Identifier> + YELLOWKEY (whether included in the START-OF-DATA section of the file, or the header section of the file) cannot exceed 32 characters, including spaces.
For example: IBM US Equity=13 characters
We do not include SECID in the security identifier count:
For example: IBM US Equity|TICKER=13 characters

***Note, it is possible to request Money Market data using \<six digit cusip> M-mkt. For example, \4381ZA M-Mkt

SECMASTER (optional) – This option onlyapplies to the getdata program. It allows customers to request data via fields from both the End of Day Pricing and the Security Master categories. (Please see Data Dictionary to determine field category). Without SECMASTER selected, a request for Security Master data will return **N.S**. End of Day Pricing should be requested independently with CLOSINGVALUES=yes.

SKIP_PCS(optional) – This option onlyapplies to the getdata program and allows users to define one or more pricing sources that they would like to skip when determininghe pricing source to be returned for a given security's price. For example, the default hierarchy for a bond is BGN, EXCH, then BFV - and the user specified SKIP_PCS=BGN, then EXCH or BFV prices will return as per availability, skipping BGN as a pricing source to be returned. The syntax for the header option is as follows:
SKIP_PCS=BGN
and for more than one source, separate with a 'pipe'
SKIP_PCS=BGN|BFV

SN and **WS** (required by Send File, optional for FTP) - These are the serial and workstation numbers of the BLOOMBERG PROFESSIONAL™ service. These options are required for Send File requests; they are available to FTP customers to link their terminal permissions (e.g., real-time exchange pricing) to an FTP login on a per request basis. Please see page 14 for details on linking.

SNAPTIME (required by getsnap program) - This header specifies the time the snap should be executed. The format should be hh:00 or hh:30 The request file must be submitted 15 minutes prior to the desired snapshot time to ensure the procedure is engaged.

SPECIALCHAR (optional) - This flag controls the output of fractional and decimal fields. Fractional characters can occur in price fields and security descriptions. SPECIALCHAR defaults to decimal and can currently take three values:

bloomberg - Use Bloomberg's special characters where appropriate, e.g., one half is represented as a byte containing 0x9f (See Getdata Section).

fraction - Translate Bloomberg's special characters to ASCII fractions, e.g., one half is represented as 1/2.

decimal:n - Translate Bloomberg's special characters to ASCII decimals; e.g., one half is represented as .5. The number of decimal places can be specified using the format decimal:n, where n is the number of decimal places desired. When the number of decimal places is specified, the number is rounded; e.g., for SPECIALCHAR=decimal:3, the number 98.6175 will be returned as 98.618. If no :n is specified, the number of decimal places defaults to 6, which is the maximum precision. This option is available for Price fields only.

Certain fields return security descriptions, such as SECURITY_DES for corporate bonds. Security descriptions always come back with "fraction characters":

IBM 4 1/8 06/30/05

SYSTEM (required by Send File, not applicable for FTP) The only value is DATA. SYSTEM=DATA must appear as the second line of a Send File request, immediately after START-OF-FILE. This specifies that the request is a Data License Send File request; without this line, the file will never be processed.

TICKADJUSTDATE (optional) - This header option is available for getticks and getallticks; the default is YES. This option is used to specify that the date returned for each line of tick date should be adjusted to be based on New York time. This only occurs for those exchanges that trade across midnight NY time (Asia region exchanges). When TICKADJUSTDATE is set to NO, the date of the tick data will be the close date. Below is an example of a New Zealand security, with the file processed on a New York machine:

TICKADJUSTDATE=yes

```
START-OF-DATA
START SECURITY|KIP NZ Equity|
KIP NZ Equity|05/06|01:34:30|T|1.15|A||CL|
KIP NZ Equity|05/06|01:34:30|B|1.14|A||A|1.15|A|||
KIP NZ Equity|05/06|00:47:20|T|1.15|A|91|SP|
KIP NZ Equity|05/06|00:46:49|T|1.15|A|105||
KIP NZ Equity|05/06|00:22:03|T|1.15|A|4909|SP|
KIP NZ Equity|05/06|00:17:33|T|1.15|A|17000|SP|
KIP NZ Equity|05/06|00:06:44|T|1.15|A|810||
KIP NZ Equity|05/05|23:10:38|T|1.15|A|23333|SP|
KIP NZ Equity|05/05|23:08:48|T|1.15|A|7153||
…
```

TICKADJUSTDATE=no

```
START SECURITY|KIP NZ Equity|
KIP NZ Equity|05/06|01:34:30|T|1.15|A||CL|
KIP NZ Equity|05/06|01:34:30|B|1.14|A||A|1.15|A|||
KIP NZ Equity|05/06|00:47:20|T|1.15|A|91|SP|
KIP NZ Equity|05/06|00:46:49|T|1.15|A|105||
KIP NZ Equity|05/06|00:22:03|T|1.15|A|4909|SP|
```

```
KIP NZ Equity|05/06|00:17:33|T|1.15|A|17000|SP|
KIP NZ Equity|05/06|00:06:44|T|1.15|A|810||
KIP NZ Equity|05/06|23:10:38|T|1.15|A|23333|SP|
KIP NZ Equity|05/06|23:08:48|T|1.15|A|7153||
…
```

TICKEXCHLENGTH (optional) - This option is available for getticks, getallticks, getquotes and getallquotes programs. Using TICKEXCHLENGTH=2 will return a two character exchange code instead of the default, which is a single character exchange code. These two character exchange codes are the same codes returned by equities in the EXCH_CODE field. They are available in two lookup tables - LU_EQY_PRIM_EXCH and LU_COMPOSITE_EXCH_CODE.

TICKLOCALTZ – This option is available for the getticks, getallticks, getquotes and getallquotes programs. The default for this option is no, and the default time zone is New York. With TICKLOCALTZ=yes in a request, the time zone setting of the client profile linked to the request will determine the time and date returned in the output. **TZDF <GO>** is the function on the BLOOMBERG Professional™ that controls time zone settings. On a request basis, clients can link in their TZDF profiles via the USERNUMBER option. On an account basis clients can contact technical support and request that a particular UUID be associated with their account. This option will only work with linked request files. The TICKOUTPUTTZ and TICKLOCALTZ are mutually exclusive header options.

TICKOUTPUTTZ (optional) – This option is available for the getquotes and getallquotes programs. This option determines the time zone of the output received in the file. This setting is independent of the region selected in the DATERANGE and DATETIMERANGE header options. The TICKOUTPUTTZ and TICKLOCALTZ are mutually exclusive header options.

By default, ticks are returned in the same time zone as they are requested. TICKOUTPUTTZ will override the region in the DATETIMERANGE setting. DATETIMERANGE controls the time zone of the input and TICKOUTPUTTZ controls the time zone of the output. For example, you can request to download ticks from 09:00:00 to 17:00:00 NY time and have the output displayed in London time. The header for this scenario would look like this:

DATETIMERANGE=20090209_09:00:00|20090209_17:00:00|NY
TICKOUTPUTTZ=LO (or TICKOUTPUTTZ=22)

There is an optional parameter to account for Daylight Savings Time (DST) in the TICKOUTPUTTZ header option. Appending /DST or /NODST will adjust the output time accordingly.

* TICKOUTPUTTZ=50/NODST
* TICKOUTPUTTZ=50/DST

TIME (optional) - This flag determines the time at which request files are processed. The time will be set according to the local time of the account's sales region - Tokyo, London or New York. If TIME is not specified in a request, it is processed immediately.

The format is TIME=HHMM, where HH is the hour (00 - 23) and MM is the minute (00 - 59). For example, to start a request at 8:35 PM local time, set TIME=2035; to start a oneshot request at 3:00 PM, set TIME=1500.

If the TIME variable is not used in a scheduled request, the file will immediately process at the time the request is received by Bloomberg, and will thereafter run at **0000** (midnight) of the local region.

USERNUMBER (required by Send File, optional for FTP) - This is the user number of the BLOOMBERG PROFESSIONAL™ service login. This is required for Send File requests, but it also allows FTP customers to link their personal Bloomberg terminal defaults (e.g., fixed income pricing sources) to an FTP login on a per request basis.

VERSION (optional) - If **new** is specified, the new beta version of the software will be used to process the request. As explained in Request File Mechanisms Section, the new beta version of the software is typically moved in weekly. There may be no changes seen for individual Per Security programs. Please note that if this version of the software is requested, the results will not be as reliable as the production version of the software.

WS (required by send File, optional for FTP) - Please see the SN and WS option description above. Please see page 14 for details on linking.

YELLOWKEY (optional) - This option specifies a default market sector (i.e. Govt, Corp, Equity, etc.) that will be used with the security descriptions. If a market sector description is already appended to the security in the data section, the given value for this option will be ignored. For example,

```
YELLOWKEY=Equity
…
START-OF-DATA
IBM US||
CT30 Govt||
MSFT US||
END-OF-DATA
```

In the above, “IBM US” will be treated as “IBM US Equity” and “MSFT US” will be treated as “MSFT US Equity.” “CT30 Govt” will be treated as requested.

Market sector must be one of the standard Bloomberg market sectors:

Govt	Muni	Comdty
Corp	Pfd	Index
Mtge	Equity	Curncy
M-Mkt		

Market sectors are case-sensitive and must be entered as above.

When both SECID= and YELLOWKEY= options are specified, SECID= option takes precedence. For example, if SECID=CUSIP and YELLOWKEY= Mtge, if CUSIP 912828KD1 is requested, data will be returned even though it is not a Mtge security/.

The length of a security identifier cannot exceed 32 characters. Therefore <Identifier> + YELLOWKEY (whether included in the START-OF-DATA section of the file, or the header section of the file) cannot exceed 32 characters, including spaces.
For example: IBM US Equity=13 characters
We do not include SECID in the security identifier count:
For example: IBM US Equity|TICKER=13 characters

*****Note, it is possible to request Money Market data using \<six digit Cusip> M-mkt. For example, \4381ZA M-mkt

Data Items (Fields)

Fields must be listed between the following two declarations:

START-OF-FIELDS

<Field Mnemonics>

END-OF-FIELDS

The list of fields must be after the header and before the list of securities. A maximum of 500 fields can be specified in any request file.

Example:

```
START-OF-FIELDS
ID_ISIN
NAME
PX_ASK
MTG_WAC
EQY_BETA
YLD_CNV_ASK
END-OF-FIELDS
```

Additionally, the way in which field information is returned may be specified (all are optional):

<field mnemonic>| <field width> | <decimal places> | <FP format>

<field width> is a number from 1 to a maximum of 30000. It represents the size (number of characters) of the field that is returned. If a value is not specified, the defaults are as follows:

- If the OUTPUTFORMAT is specified as **variable** (the default), the resulting field will be returned surrounded by **|** (UNIX pipes).
- If the OUTPUTFORMAT is **fixed**, the size of the field defaults to a predetermined fixed size for that field. (The predetermined sizes of fields are represented in the Standard Width column of the *fields.csv* table that can be found in all FTP account directories. Please see Data Dictionary Section for a description of this table).

<decimal places> is a number from 0 to 9 and it allows specification of the number of decimal places that are returned with Price fields. For character and Real fields, this value is ignored. If this option is not specified, the number of decimal places will vary according to field. Columns in the fields.csv table provide information about each fields' decimal places. Please see Data Dictionary Section for a description of the fields.csv table.

<FP format> is a special representation of real numbers without a decimal point (floating point format). To turn this feature on, place a **c** or **C** as the third option after the field mnemonic. If this option is not specified, this feature is turned off by default.

Examples of FP format:

Normal return	# decimal places	Field width	FP format return
9.7342	6	10	|6xx9734200|
14.24353	3	14	|3xxxxxxxx14244|
4.234	4	6	|442340|
1.4	0	5	|0xxx1|
0.906	9	10	|9906000000|

Note: |'s (UNIX pipes) in the FP format return (column 4 above) show the boundary of the field and x's are shown to represent spaces. For example request and reply files using these special formatting features, please see Appendix C.

Pricing Source

Third party pricing sources are available via Per Security, however they may require linking to a privileged BLOOMBERG PROFESSIONAL™ terminal. Please see page 14 for details on linking. IF there is no pricing source override and the request file is not linked to a specific user, then the following Pricing Source hierarchy is used:

FixedIncome:	Preferreds:	Currency:	Mtge:	Muni:
BGN	EXCH	BGN	BGN	BFV
BFV	BGN	CMPN		
EXCH	BFV			

Securities

Securities must be listed between the following two declarations:

START-OF-DATA

<Securities>

END-OF-DATA

Any text inserted between END-OF-DATA and END-OF-FILE will not be returned in the output. Bloomberg Data License may insert comments in the area between END-OF-DATA and END-OF-FILE at any time.

The list of securities must be after the list of fields. There may only be one security identifier per line, and a maximum of 20,000 securities may be requested in a single file. The following formats can be used:

<Identifier> <Market Sector>
<Identifier> <Market Sector> | <Security Identifier> |
<Identifier> | <Security Identifier>

<Identifier>: required.

<Market Sector>: This is optional, but recommended. Processing will be faster if a market sector is specified since Bloomberg will know which security database to search first. Market sector must be one of the standard Bloomberg market sectors specified previously in File Header Section under the YELLOWKEY header description.

<Security Identifier> must be one of the identifiers specified previously under the SECID header description. This security descriptor is limited to 32 characters.

It is also possible to identify securities using security descriptions such as Ticker/Coupon/Maturity or Ticker/Exchange; in these cases, the market sector must be specified.

Some security identifiers apply to multiple securities from multiple exchanges. It is possible to specify the security desired by adding exchange code.

Example:

```
START-OF-DATA
# Intel Corp
US4581401001 US|ISIN|
US4581401001 US Equity|ISIN|
INTC US Equity
# T14 11/15/11
000863149|VALOREN|
000863149 Govt|VALOREN|
T14 11/15/11 Govt
END-OF-DATA
```

Comment lines can be included in Request files. Comment lines must be preceded by a # sign. In the above example, the lines beginning with # will be ignored in processing and be delivered in the same positions in the reply file.

Wildcards

This section describes wildcards (or macros), which represent a group or universe of securities. All currently available wildcards for the BLOOMBERG Data License product are discussed here, as well as their usage. The general syntax for wildcard usage in a request file is:

macrotype = primary qualifier [AND secondary qualifier = value [AND secondary qualifier = value AND...]]...]

Wildcards are placed in the data section of a request file. Secondary qualifiers are optional
**It should be noted that clients will be billed for all securities that are delivered when using a wildcard/macro.*

Macrotypes

Macrotype	Description	Primary Qualifier	Notes
BOND_SRCH	Bond search	Custom criteria set number	Bond search as set up under the SRCH function on the BLOOMBERG PROFESSIONAL™ service. This includes Corp and Govt. The LOGIN and USERNUMBER header options are required.
EQUITY_SRCH	Equity search	Custom criteria set number	Equity search as set up under the QSRC function on the BLOOMBERG PROFESSIONAL™ service. The LOGIN and USERNUMBER header options are required.*
EXCH	Equity exchanges	Two character exchange code, e.g., UN (New York Stock Exchange)	See Appendix D for information about the Lookup Table that returns a list of exchanges and composite exchanges.
INDEX	Equity indices	Index ticker symbol, e.g., INDU (Dow Jones Industrial Average)	See Appendix D for examples of index ticker symbols.
PFD_SRCH	Preferred Bond Search	Custom criteria set number	Preferred Bond search as set up under the PSCH function on the BLOOMBERG PROFESSIONAL™ service. The LOGIN and USERNUMBER header options are required.
PORTFOLIO	Your portfolio	The portfolio # from PRTU<go> or the portfolio name from BVPM<go>	The LOGIN and USERNUMBER header options are required if your Data License account is not linked to a BLOOMBERG PROFESSIONAL™ service. The PRP header option can be used in conjunction with this macro.
SECTYP	Security type	Security type descriptor, e.g. CORPORATES	See the table below.

*EQUITY_SRCH cannot be used in conjunction with other macros. Separate request files must be submitted.

The above search wildcards enable customers to download a specific search that has been set up via the BLOOMBERG PROFESSIONAL™ functions **SRCH**, which searches all corporate and government bonds, or **PSCH**, which searches all preferred bonds. All that needs to be specified is the Custom Criteria Set of interest. For example, if a client would like to download SRCH criteria set number 3, this would be specified as

BOND_SRCH = 3 | MACRO

in the data section of the request file. All bonds that match the given criteria will be returned with the fields that were requested.

The below listed **PORTFOLIO** wildcards enable customers to utilize an existing portfolio's security set. The line format is the same as the bond search. For example,

PORTFOLIO = 1523 | MACRO

would be used to download the securities of a portfolio in PRTU<go> whose Port # was 1523. A Port # can be found on the BLOOMBERG PROFESSIONAL™ service. Enter **PRTU <go>;** the Port #'s are listed to the far right of the "Your Portfolios" table. The PRP header option can be used with the PORTFOLIO macro. For example, PRP=1 will return fields in PRP Setup #1. See File Header Section for further details.

WARNING: Shared Portfolio's can be assigned the same number as an existing Portfolio. In this case, you would need to create a new Portfolio and use the newly created Portfolio in your Macro request.

In contrast, the line format for the PORTFOLIO wildcard that applies to BVAL Derivatives Portfolios stored in BVPM<go> is as follows:

PORTFOLIO=BVALOTC:<portfolio name>|MACRO

A portfolio name can be found on the BLOOMBERG PROFESSIONAL™ service. Enter BVPM<go> and the portfolio names are all listed in the drop-down box in the top, left-hand corner of the screen. For example, if your portfolio was named "Money Maker," you would construct the wildcard as follows:

PORTFOLIO=BVALOTC:Money Maker|MACRO

The Portfolio MACRO also supports overrides. In order to add an override, simply append the override values after the word 'MACRO'. For example, to add a date override to the above example, you can use:

PORTFOLIO=BVALOTC:Money Maker|MACRO|1|PX_CLOSE_DT|mm/dd/yy|

It is possible to use overrides in conjunction with Macros. For example, if a client is interested in downloading all members of the FTSE All-Share Index and would like to know the weighting of each member within that index, the following Macro/Override combination can be used:

INDEX=ASX | MACRO |1| REL_INDEX|ASX|

The field to be requested is INDX_WEIGHT, which will return the weighting of each member within the ASX Index.

Important note:

To obtain the unique identifier to use in the **EQUITY_SRCH** macro, login to your Bloomberg terminal, using the login name that has the equity search you wish to use. Then run the function EQS /DL <GO> and select the 'My Screens' tab at the bottom of the window. You must use the number in the column headed 'ID' against the search name you have created.

Example: EQUITY_SRCH=8606101 |MACRO

Security Types

The following table lists all available primary qualifiers (security type descriptors) for SECTYP.

Security Type	Description	Market Sector
ABS	Asset-backed securities	Mtge
BASIS_SW_CRNCY	Basis swap rates	Curncy
CD_CRNCY	CD rates	Curncy
CMBS	Commercial Mortgage Backed Securities	Mtge
CMO	Collateralized Mortgage Obligations	Mtge
CONVERTS	Convertible bonds†	Corp
CONVERTS_PFD	Convertible preferred bonds†	Pfd
CONVERTS_UNDERLYING	Underlying securities to convertible bonds†	Equity
CONVERTS_PFD_UNDERLYING	Underlying securities to convertible preferred bonds†	Equity
CORPORATES	Corporate bonds (includes convertibles) †	Corp
CORP_PFD	Corporate preferred bonds	Corp
CORP_PFD_DOMESTIC	Corporate and preferred bonds issued by the U.S. or Canada†	Corp, Pfd
CORP_PFD_INTERNATIONAL	Corporate and preferred bonds *not* issued by the U.S. or Canada†	Corp, Pfd
CORP_WARRANT	Corporate Warrants	Corp
CPS_FLRS_CRNCY	Caps/floors rates	Curncy
CROSS_CRNCY	Cross exchange rates	Curncy
DELIVERABLE_BONDS	Deliverable bonds on futures contracts‡	Comdty
DEPOSIT_CRNCY	Deposit exchange rates	Curncy
EQUITY_INDEX	Equity Indices	Index
EURODOLLAR_BOND	Eurodollar bonds (USD bonds deposited in Europe banks) †	Corp
FHLMC_GOLD_POOL	Federal Home Loan Mortgage Corporation securities ("Freddie Mac" gold)	Mtge
FHLMC_POOL	Federal Home Loan Mortgage Corporation securities ("Freddie Mac")	Mtge
FNMA_POOL	Federal National Mortgage Association securities ("Fannie Mae")	Mtge
FORWARD_CRNCY	Forward Currency rates	Curncy
FRA_CRNCY	Forward Rate Agreements	Curncy
FUT_CHAIN	Futures contracts‡	Comdty

GNMAII_POOL	Government National Mortgage Association securities ("Ginnie Mae" II)	Mtge
GOVT_AGENCY	U.S. and foreign government agencies†	Corp
GOVT_NATIONAL	Non-U.S. government bonds (National) †	Corp
GOVT_REGIONAL	Non-U.S. government bonds (Regional) †	Corp
LOAN	Corporate Loans	Corp
NDF_CRNCY	Non-deliverable forward rates	Curncy
NDF_SW_CRNCY	Non-deliverable forward swaps	Curncy
ONSH_CRNCY	Onshore forward rates	Curncy
ONSH_SW_CRNCY	Onshore forward swap rates	Curncy
OPT_CHAIN	Equity, future and index option chain‡	Comdty, Equity, Index
OPT_VOL_CRNCY	Option volatility rates	Curncy
PFD_BOND	Preferred bonds (no convertibles) †	Pfd
QUARTER_CRNCY	Quarterly swap rates	Curncy
REPO_CRNCY	Repo rates	Curncy
SEMI_CRNCY	Semi-annual swap rates	Curncy
SPOT_CRNCY	Spot exchange rates	Curncy
SUPRA_NATIONAL	Inter-American Development Bank, Supranational & World Bank bonds (includes convertibles) †	Corp
SWAP_CRNCY	Swap currency rates	Curncy
SWAP_SPR_CRNCY	Swap spread rates	Curncy
SWAP_VOL_CRNCY	Swaption volatility rates	Curncy
US_TREASURY	U.S. treasury bonds†	Govt
WHEN_ISSUED	When Issued securities	Corp
WHOLE_LOAN	Whole loan mortgages	Mtge
X_FWD_CRNCY	Cross forward rates	Curncy

† *All matured bonds are weeded out of the list of securities returned.*

‡ *Must be used in conjunction with the secondary qualifier SECURITY_DES. See examples below.*

Wildcards are placed between "START-OF-DATA" and "END-OF-DATA" in the request file. The usage of wildcards in a request file is best illustrated through the following examples:

```
START-OF-DATA
INDEX =INDU |MACRO
EXCH= UN|MACRO
SECTYP=CONVERTS|MACRO
SECTYP=GOVT_REGIONAL|MACRO
SECTYP=US_TREASURY|MACRO
END-OF-DATA
```

The first example given above will return all members of the Dow Jones Industrials (ticker = INDU). The second example will retrieve all listings on the New York Stock Exchange. The third example will generate the list of all convertible bonds in the corporate database, and so on.

Wildcards can also be used in gethistory, getticks, getallticks, getquotes, getallquotes and getactions. The following data request returns daily high prices for members of the S&P 500 Index from June 15, 2002 through June 15, 2003:

```
START-OF-FIELDS
PX_HIGH
END-OF-FIELDS

START-OF-DATA
INDEX = SPX|MACRO|20020615|20030615|
END-OF-DATA
```

In general, wildcards should be treated as any other data request with the addition of "| MACRO" after the universe of securities of interest. Wildcards are meant to facilitate downloading large groups of related securities and security list maintenance. They are *not* designed to function as a general search engine with highly specific search constraints.

Secondary Qualifiers

Secondary qualifiers can be used to limit or constrain wildcards to a subset of securities. They must be preceded by **AND**. The following table lists all secondary qualifiers and to which macrotypes/primary qualifiers these apply.

Secondary Qualifier	Description	Macrotypes/Primary Qualifiers	Notes
ACTIVE_PRICING	Actively priced exchange traded equities	EXCH	Valid values are yes and no, where yes is the default. If yes, only those equities priced in the last 30 days are returned; if no all are returned.
COUNTRY	Country (CDR code)	CONVERTS, CONVERTS_PFD, CONVERTS_PFD_UNDERLYING, CONVERTS_UNDERLYING, CORPORATES, GOVT_AGENCY, GOVT_NATIONAL, GOVT_REGIONAL, EURODOLLAR_BOND, PFD_BOND, SUPRA_NATIONAL	See Appendix D for information about the Lookup Table that returns a list of valid CDR codes for COUNTRY.
CPN_TYP	Coupon type	CONVERTS, CONVERTS_PFD, CONVERTS_PFD_UNDERLYING, CONVERTS_UNDERLYING, CORP_PFD_DOMESTIC, CORP_PFD_INTERNATIONAL, CORPORATES, GOVT_AGENCY, GOVT_NATIONAL, GOVT_REGIONAL, EURODOLLAR_BOND, PFD_BOND, SUPRA_NATIONAL, US_TREASURY	The only valid value for CPN_TYP is FLOATING, which will deliver all securities with FLOATER=Y.

Secondary Qualifier	Description	Macrotypes/Primary Qualifiers	Notes
CRNCY	Currency (ISO code)	CONVERTS, CONVERTS_PFD, CONVERTS_PFD_UNDERLYING, CONVERTS_UNDERLYING, CORP_PFD_DOMESTIC, CORP_PFD_INTERNATIONAL, CORPORATES, GOVT_AGENCY, GOVT_NATIONAL, GOVT_REGIONAL, PFD_BOND, SUPRA_NATIONAL	See Appendix D for information about the Lookup Table that returns a list of valid ISO codes for CRNCY.
EXCH_TRADED	Exchange traded preferred bonds	CONVERTS, CONVERTS_PFD, CONVERTS_PFD_UNDERLYING, CONVERTS_UNDERLYING, PFD_BOND	The valid values are yes and no. The default is no.
HAS_PRICED_TZERO	Has priced the current day	EXCH	Valid values are yes and no, where no is the default. Will override the ACTIVE_PRICING qualifier
MATURED	Matured Securities	CONVERTS, CONVERTS_PFD, CORPORATES, CORP_PFD_DOMESTIC, CORP_PFD_INTERNATIONAL, EURODOLLAR_BOND, GOVT_AGENCY, GOVT_NATIONAL, GOVT_REGIONAL, PFD_BOND, SUPRA_NATIONAL, US_TREASURY	The valid values are **yes** and **no**. The default is **no**.
NET_CPN	Net coupon for mortgage pools	FHLMC_GOLD_POOL, FHLMC_POOL, FNMA_POOL, GNMAI_POOL, GNMAII_POOL	Any numeric value. A range of values is acceptable.
RATE	Mortgage rate	FHLMC_GOLD_POOL, FHLMC_POOL, FNMA_POOL, GNMAI_POOL, GNMAII_POOL	Valid values are ADJUSTABLE or FIXED.
RATING	Bloomberg composite rating	CONVERTS, CONVERTS_PFD, CONVERTS_PFD_UNDERLYING, CONVERTS_UNDERLYING, CORP_PFD_DOMESTIC, CORP_PFD_INTERNATIONAL, CORPORATES, GOVT_AGENCY, GOVT_NATIONAL, GOVT_REGIONAL, EURODOLLAR_BOND, PFD_BOND, SUPRA_NATIONAL	See Appendix D for information about the Lookup Table that returns a list of valid Bloomberg composite ratings for RATING. A range of values is acceptable.
SECURITY_DES	Security description	DELIVERABLE_BONDS, FUT_CHAIN, OPT_CHAIN	Security description as recognized by Bloomberg. See Data Items Section.
SECURITY_TYP	Security type	EXCH	See a table below for a list of valid security types

Secondary Qualifier	Description	Macrotypes/Primary Qualifiers	Notes
SERIES	Series of corporate bond	CONVERTS, CONVERTS_PFD, CONVERTS_PFD_UNDERLYING, CONVERTS_UNDERLYING, CORP_PFD_DOMESTIC, CORP_PFD_INTERNATIONAL, CORPORATES, GOVT_AGENCY, GOVT_NATIONAL, GOVT_REGIONAL, EURODOLLAR_BOND, PFD_BOND, SUPRA_NATIONAL	Any valid series is acceptable, such as 144A.
TICKER	Ticker symbol	CONVERTS, CONVERTS_PFD, CONVERTS_PFD_UNDERLYING, CONVERTS_UNDERLYING, CORP_PFD_DOMESTIC, CORP_PFD_INTERNATIONAL, CORPORATES, GOVT_AGENCY, GOVT_NATIONAL, GOVT_REGIONAL, EURODOLLAR_BOND, PFD_BOND, SUPRA_NATIONAL, US_TREASURY	Any valid ticker symbol is acceptable.
WAC	Weighted average coupon for mortgage pools	FHLMC_GOLD_POOL, FHLMC_POOL, FNMA_POOL, GNMAI_POOL, GNMAII_POOL	Any numeric value. A range of values is acceptable.
WALA	Weighted average loan age for mortgage pools	FHLMC_GOLD_POOL, FHLMC_POOL, FNMA_POOL, GNMAI_POOL, GNMAII_POOL	Any numeric value. A range of values is acceptable. This is in number of months.
WAM	Weighted average maturity for mortgage pools	FHLMC_GOLD_POOL, FHLMC_POOL, FNMA_POOL, GNMAI_POOL, GNMAII_POOL	Any numeric value. A range of values is acceptable. This is in number of months.

Currently available security types for the secondary qualifier SECURITY_TYP are listed below.

SECURITY_TYP	Description
AMERICATRUST	America's trust
CLOSEENDFUND	Closed end fund
COMMON[1]	Common stock
MONEYMARKET	Money market fund
MUTUAL	Mutual fund
OFFSHOREFUND	Off-shore fund
OPTION	Option
RECEIPT	Receipt
RIGHT	Right
UKTRUST	UK unit trust
UNIT	Unit trust
WARRANT	Warrant

1 SECURITY_TYP=COMMON will return the securities that were listed on an exchange as of the previous day; for example, if a security is added to an exchange on Monday, it will not be returned under this macro until Tuesday.

Secondary qualifiers use the operators **=**, **!=** (not equal to), **>** and **<**. Some examples of secondary qualifiers are:

- `SECTYP=CORPORATES AND CRNCY=USD AND COUNTRY=US|MACRO`

`All corporate bonds issued by the U.S. in U.S. dollars`

- `SECTYP=GOVT_REGIONAL AND COUNTRY!=CA AND CRNCY=FRF|MACRO`

`All regional government bonds, not issued by Canada, denominated in French francs.`

- `SECTYP=GOVT_NATIONAL AND COUNTRY=CH|MACRO`

`All government national bonds issued by China`

- `SECTYP=GOVT_AGENCY AND RATING=AAA AND CRNCY=BE|MACRO`

`All government agency bonds, issued by Belgium, rated AAA`

- `SECTYP=US_TREASURY AND TICKER=T|MACRO`

`All U.S. treasuries with "T" as the ticker symbol`

- `EXCH=UN AND SECURITY_TYP=COMMON|MACRO`

`All common stocks listed on the New York Stock Exchange.`

The deliverable bonds, futures contracts and option chain macros require the secondary qualifier SECURITY_DES. For example,

```
SECTYP=DELIVERABLE_BONDS AND SECURITY_DES=USA Comdty|MACRO
SECTYP=OPT_CHAIN AND SECURITY_DES=IBM US Equity|MACRO
```

The first macro returns all deliverable bonds for the US long bond future and the second returns all options for IBM's US listing.

Ranges can be specified for the secondary qualifiers NET_CPN, RATING, WAC, WALA and WAM by using > and < symbols, as in the following examples:

```
SECTYP=GOVT_AGENCY AND RATING>B2 AND RATING<A3|MACRO
SECTYP=CORPORATES AND RATING<AAA AND RATING>B1|MACRO
SECTYP =CONVERTS AND RATING<AA1|MACRO
SECTYP=GNMAI_POOL AND NET_CPN>6.9 AND NET_CPN<8.0|MACRO
SECTYP=FHLMC_POOL AND WAC>7.25|MACRO
```

The first example retrieves government agency bonds that are rated higher than B2 and lower than A3. The second example gets corporate bonds that are rated lower than AAA and higher than B1. The next example is for convertible bonds that are lower than AA1, etc.

In general, wildcards are easy to use and expedite the generation of lists of securities of a given group. Some basic syntax rules for wildcards follow.

- Wildcards must begin with a macrotype (e.g., INDEX) followed by an equal sign (=). Only one macrotype is allowed per line.
- The order of secondary qualifiers (e.g., CRNCY) does not matter.

- Secondary qualifiers must be preceded by **AND**.
- Only one type of secondary qualifier can be specified per line (except RATING and Mtge qualifiers). For example, COUNTRY = CA AND COUNTRY = CH is not allowed, nor is CRNCY != USD AND CRNCY != FRF.
- Either a range of RATINGs can be specified or one RATING can be asked for, but not both. That is, either use RATING > ??? AND RATING < ??? or RATING = ???, but not RATING = ??? AND RATING > ???. This applies to the mortgage secondary qualifiers NET_CPN, WAC, WALA and WAM as well.
- A maximum of seven secondary qualifying statements (e.g., TICKER = T) are allowed per line. Any secondary qualifying statement beyond the seventh AND is ignored.

Possible return codes for wildcards are (in general, any non-zero return code means an error has occurred):

0	Good return. No errors occurred.
500	Invalid wildcard (macro).
501	Unknown macrotype.
502	Unknown secondary qualifier.
503	Unknown EXCH.
504	Unknown INDEX.
505	Unknown SECTYP.
506	Unknown CRNCY.
507	Internal database error.
508	Unknown COUNTRY.
509	Internal database error.
510	Invalid operator, i.e. operator other than =, !=, > or < was used.
511	Invalid RATING request
512	Multiple secondary qualifiers of the same type.
513	Invalid CPN_TYP.
514	Invalid Mtge request.
515	Invalid Mtge RATE request.
516	Internal database error.
517	Options not available.
518	Deliverable bonds not available.
519	Futures not available.
520	Search error.
521	Portfolio error.

Reply Files (Returned Data)

This section outlines the basic reply file formats for the different programs that can be requested via PROGRAMNAME. Reply files are printable ASCII characters only, with no binary characters or special escape sequences. (Exceptions are described below). The default delimiter character used in reply files is "|" (UNIX pipe) unless otherwise specified. Reply files have the following general format:

START-OF-FILE - This will always be the first line in the file.
<Header section>
<Field section>
TIMESTARTED=date and time
DIFFFLAG=<diffflag> (scheduled "diff" requests only)
<Data section>
TIMEFINISHED=date and time
END-OF-FILE - This will always be the last record in the file.

Both the header and field sections are exactly as specified in the request file sent by the customer. Lines that were commented in the request file using a # character are simply replicated in the reply file.

TIMESTARTED - This is the date and time the request began processing on Bloomberg's backend server. Its format is the same as the output of the UNIX date command with no arguments. For example, a file that started processing on May 19, 2005 at 11:43:56 EDT would return

```
TIMESTARTED=Thu May 14 11:43:56 EDT 2009
```

DIFFFLAG - This is only valid for the reply files of scheduled "diff" requests. Further information about the DIFFFLAG variable can be found in File Header Section. For more information about scheduling requests, please see the PROGRAMFLAG variable in the File Header Section.

TIMEFINISHED - This is the date and time the request finished processing on Bloomberg's backend server. The format is the same as TIMESTARTED.

```
TIMEFINISHED=Thu May 14 11:46:51 EDT 2009
```

Historical Price Corrections for Per Security Accounts

Historical Price Correction files list securities that have undergone a historical pricing correction. The corrections will have been entered during the previous day. The files are named with the clients account number followed by the extension **.hpc** (i.e., 12345.hpc, if 12345 were a client account). The files are put into clients FTP directories on an as-needed basis.

Only securities that the client has downloaded within the past two months will be included in the file. If the securities that have received corrections are not found in a client's download list, no **.hpc** file will be sent.

Historical price correction records are formatted as follows:

<security description> | <field mnemonic> | <old value> | <date of price> | <new value> | <new date entered> | <time entered> | <exchange indicator> |

The following fields are being tracked for price corrections:

BOOK_VAL_PER_SH	INDX_POS_EST_ERN
CNVX_OAS_BID	INDX_PX_SALES
CNVX_OAS_MID	INDX_UNCH_VOL
CUR_MKT_CAP	IS_EPS
DUR_ADJ_ASK	IS_SPECIAL_EPS
DUR_ADJ_BID	MF_BLCK_1D
DUR_ADJ_MID	MF_NONBLCK_1D
DUR_ADJ_OAS_ASK	INDX_PX_BOOK
DUR_ADJ_OAS_BID	MTG_PREPAY_SPEED
DUR_ASK	MTG_PREPAY_TYP
DUR_BID	MTG_WAL
DUR_MID	NET_INCOME
DVD_HIST	OFF_ON_EXCH_VOLUME
EQY_DVD_HIST_GROSS	OPEN_INT
DVD_SH_LAST	OPEN_INT_TOTAL_CALL
EQY_WEIGHTED_AVG_PX	OPEN_INT_TOTAL_PUT
HIST_CALL_IMP_VOL	PX_ASK
HIST_PUT_IMP_VOL	PX_BID
HISTORICAL_MARKET_CAP	PX_FIXING
INDX_ADJ_PE	PX_HIGH
INDX_ADJ_POSITIVE_PE	PX_LAST
INDX_ADJ_POS_PX_EE	PX_LOW
INDX_ADJ_PX_EE	PX_OPEN
INDX_ADV_VOL	PX_VOLUME
INDX_DECL_VOL	SPREAD_BA_CR
INDX_GENERAL_EST_PE	VOLUME_TOTAL_CALL
INDX_GROSS_DAILY_DIV	VOLUME_TOTAL_PUT
INDX_NET_DAILY_DIV	YLD_CNV_ASK
INDX_POS_ERN	YLD_CNV_BID

Overrides

A distinguishing feature of the BLOOMBERG Data License getdata product is the ability to perform calculation overrides to return personalized analytic values. This allows clients to submit data that can leverage BB standard models and calculation servers.

The value of an overriding field is altered to affect the return of another field. There is a limit of 20 overrides per record. Fields that are not affected by the overriding field will return their normal value.

WARNING: If the override is used improperly, incorrect or unexpected data may be returned, or the file may not process at all.

Request File Format:
<Identifier> || <Number of Overrides> | <Overriding Field> | <Overriding Value> |

Example: **XS0142898286 Corp||1|SETTLE_DT|20030615|**

<Identifier>|<Security Identifier>|<Number of Overrides>|<Overriding Field>|<Overriding Value>|

Example: **XS0142898286|ISIN|1|SETTLE_DT|20030615|**

Sample Request File for an override in the getdata Program

```
START-OF-FILE
FIRMNAME=firmabc
REPLYFILENAME=override.out
PROGRAMNAME=getdata
PROGRAMFLAG=oneshot
DERIVED=yes


START-OF-FIELDS
MTG_PREPAY_TYP
MTG_PREPAY_SPEED
MTG_WAL
END-OF-FIELDS


START-OF-DATA
# security with no overrides
073914VW0 Mtge
# security with overrides
073914VW0 Mtge||2|MTG_PREPAY_TYP|MTG_PREPAY_SPEED|CPR|90|
END-OF-DATA
END-OF-FILE
```

Sample Reply File for an override in the getdata Program

```
START-OF-FILE
RUNDATE=20050526
PROGRAMFLAG=oneshot
REPLYFILENAME=842.out
PROGRAMNAME=getdata
PROGRAMFLAG=oneshot
DERIVED=yes

START-OF-FIELDS
MTG_PREPAY_TYP
MTG_PREPAY_SPEED
MTG_WAL
END-OF-FIELDS

TIMESTARTED=Thu May 14 08:42:48 EDT 2009
START-OF-DATA
# security with no overrides
073914VW0 Mtge|0|3|CPR|15|3.35|
# security with overrides
073914VW0 Mtge|0|3|CPR|90|.34|
END-OF-DATA
TIMEFINISHED=Thu May 14 08:42:49 EDT 2009
END-OF-FILE
```

Clients who link their files to a Bloomberg terminal can use a pricing source override to download prices from a subscribed fixed income pricing source. The override field is PRICING_SOURCE. The below asks for Zions Bank's (ZNBK) price:

912828DM9 Govt||1|PRICING_SOURCE|ZNBK|

The PRICING_SOURCE override will work with fixed income securities (Pfd, Govt or Corp) and Mtge securities within the **getdata** program.

Clients can use a similar method for overriding currency pricing sources. The default currency pricing source for an unlinked per-security account is BGN (Bloomberg Generic). Rather than overriding the PRICING_SOURCE field, the proper format for overriding a currency pricing provider is:

<TICKER> <Currency source code> Curncy

For example, for clients who subscribe to WM/Reuters pricing on the BLOOMBERG PROFESSIONAL™ terminal (provider code WMCO), the following would be used to download WM/Reuters' price for the Euro spot rate in a linked per-security request file

EUR WMCO Curncy

Currency pricing provider codes can be found on the BLOOMBERG PROFESSIONAL™ service on the **XDF <go>** function.

It is possible to use overrides in conjunction with Macros. For example, if a client is interested in downloading all members of the Dow Jones Industrial Average Index and would like to know the weighting of each member within that index, the following Macro/Override combination can be used:

INDEX=INDU | MACRO |1| REL_INDEX|INDU|

The field to be requested is INDX_WEIGHT, which will return the weighting of each member within the INDU Index.

Macro Override Syntax:

<MACRO>|<Number of Overrides>|<Overriding Field>|<Overriding Value>|

Sample Request File for a MACRO override in the getdata Program

```
START-OF-FILE
FIRMNAME=firmabc
REPLYFILENAME=macrooverride.out
SECMASTER=yes
PROGRAMNAME=getdata

START-OF-FIELDS
INDX_WEIGHT
END-OF-FIELDS

START-OF-DATA
INDEX=INDU | MACRO|1|REL_INDEX|INDU|
END-OF-DATA
END-OF-FILE
```

Sample Reply File for a MACRO override in the getdata Program

```
START-OF-FILE
RUNDATE=20100604
PROGRAMFLAG=oneshot
FIRMNAME=firmabc
REPLYFILENAME=macrooverride.out
SECMASTER=yes
PROGRAMNAME=getdata

START-OF-FIELDS
INDX_WEIGHT
END-OF-FIELDS

TIMESTARTED=Fri Jun  4 08:56:03 EDT 2010
START-OF-DATA
MMM      UN Equity|0|1|5.7732|
AA       UN Equity|0|1|.8379|
AXP      UN Equity|0|1|2.9875|
T        UN Equity|0|1|1.8276|
BAC      UN Equity|0|1|1.1651|
BA       UN Equity|0|1|4.7392|
CAT      UN Equity|0|1|4.5034|
CVX      UN Equity|0|1|5.4467|
CSCO     UW Equity|0|1|1.7458|
KO       UN Equity|0|1|3.8873|
DD       UN Equity|0|1|2.6368|
XOM      UN Equity|0|1|4.5366|
GE       UN Equity|0|1|1.2123|
HPQ      UN Equity|0|1|3.4990|
HD       UN Equity|0|1|2.4636|
IBM      UN Equity|0|1|9.4298|
INTC     UW Equity|0|1|1.6132|
JNJ      UN Equity|0|1|4.4047|
JPM      UN Equity|0|1|2.8814|
KFT      UN Equity|0|1|2.1577|
MCD      UN Equity|0|1|5.0001|
MRK      UN Equity|0|1|2.5270|
MSFT     UW Equity|0|1|1.9787|
PFE      UN Equity|0|1|1.1209|
PG       UN Equity|0|1|4.5543|
TRV      UN Equity|0|1|3.6640|
UTX      UN Equity|0|1|5.0001|
VZ       UN Equity|0|1|2.0369|
WMT      UN Equity|0|1|3.8114|
DIS      UN Equity|0|1|2.5579|
END-OF-DATA
```

Bloomberg Front End Software

Data License Request Builder and FTP Client Application

The Data License Request Builder is a tool designed to help Data License clients create BLOOMBERG Data License request files. Bloomberg will provide the software by putting the executable files into the Notices folder of the client's home directory.

This is a fast and convenient method that can be used in lieu of writing request files. A significant feature of this software is the Field Finder, which contains the list of all available fields and their descriptive information. This is the equivalent of the *fields.csv* file, also known as the Data Dictionary.

The Data License FTP Client is a tool designed to help the Data License clients transfer files to and from the ftp servers. The FTP Client is built into the Request Builder in order to allow customers to FTP their files with a few simple steps. It is available to all customers with a Data License Account.

(Note: If the Send File option is used in this application, the FTP Utilities will not be available.)

Please contact Data License Technical Support with any issues about these applications.

New versions of the software are released as upgrades are made. New versions will replace the old versions when they are posted to the Notices folder of FTP directory.

For clients with the BLOOMBERG PROFESSIONAL™ Service, all above applications, documentation, and enhancement notices can be downloaded via DLSD<GO>. Help pages are available for all above applications; please also see the Front Ends Software User Manual.

Per Security Product Information

File Commands/Programs

Data can be obtained by writing simple commands/programs. There are 10 different programs:

- Getdata
- Gethistory
- Getticks
- Getallticks
- Getquotes
- Getallquotes
- Getactions
- Getcompany
- Getfundamentals
- Getsnap

The below sections describe how each one is used.

Getdata

The getdata program returns requested data items on a given list of securities. Data items fall in one of five field categories: **security master** (e.g., coupon, ticker, call schedule), **derived data** (e.g., yield to maturity, effective duration), **historical time series, estimates** and **end of day pricing**. One record is returned per security identifier. Fields are pipe-delimited and of variable width. The getdata program can be used in conjunction with wildcards. For information regarding a list of available data items, see the "Data Dictionary" section.

Format: <Identifier> | <Rcode> | <Nfields> | <Value-1> | <Value-2> | … | <Value-Nfields> |

<Identifier>	Security identifier used in the request file
<Rcode >	Return code
<Nfields>	Number of fields requested and received
<Value-1>...<Value-Nfields>	Data element #1...Data element # Nfields

The following **return codes** are currently defined:

0	Good return. No errors occurred.
10	Bloomberg cannot find the security as specified.
11	Restricted Security. Must link to a BLOOMBERG PROFESSIONAL™ terminal with access.
988	System Error on security level
989	Unrecognized pricing source
990	System Error (Contact Technical Support)
991	Invalid override value (e.g., bad date or number) or Maximum number of overrides (20) exceeded
992	Unknown override field
994	Permission denied.
995	Maximum number of fields exceeded.
996	Buffer Overflow (some data for this security is missing).
997	General override error (e.g., formatting error)
998	Security identifier type (e.g., CUSIP) is not recognized.
999	Unloadable security

In addition, it is possible to get a good return code, but have one or more fields where data is not returned. The possible reasons for this are:

- The field is not applicable, such as asking for equity shares outstanding on a U.S. Treasury Bond. Not applicable fields will come back blank.
- The data is missing because Bloomberg does not have the data. When data is not available, the field will return **N.A.**
- The user does not have permission to download the field (e.g., information provided by a 3rd party, or field is not supported for data license). In this case, the field will return **N.D.** (Not Downloadable).
- The user has no contractual agreement to download a certain type of field for a certain security type. In this case, the field will return **N.S.** (Not Subscribed).
- If monthly limits for a test account have been reached, **N.S.** (Not Subscribed) will be returned

- The user has not flagged the proper field category in the request file header (SECMASTER, CLOSINGVALUE, DERIVED, HISTORICAL); in this case, the field will return **N.S.** (Not Subscribed)
- Bloomberg does not recognize the field. In this case, the returned value is **FLD UNKNOWN**

Applicable getdata file header options

CLOSINGVALUES	HISTORICAL	SECDESLENGTH
COLUMNHEADER	LAUNCH	SECID
COMPRESS	LOGIN	SECMASTER
DATEFORMAT	OUTPUTFORMAT	SN
DELIMITER	PORTSECDES	SPECIALCHAR
DERIVED	PRICING_SOURCE	SYSTEM
DIFFFLAG	PROGRAMFLAG	TIME
ESTIMATES	PROGRAMNAME	USERNUMBER
EXCLUSIVE_PRICING_SRC	PRP	VERSION
FILETYPE	QUOTECOMPOSITE	WS
FIRMNAME	REPLYFILENAME	YELLOWKEY
HEADER	REPORT	
HIST_CRNCY	RUNDATE	

Bulk format

"Bulk format" is a self-defining data type used to encapsulate multi-dimensional (matrix) data such as call schedules, put schedules, option chains, prepayment vectors, index members, etc. The bulk format is a large character buffer that contains all the elements in the matrix and extra control information.

The format for bulk data is as follows:

1st character: Delimiter used within this bulk format field
Number of dimensions
Delimiter
Number of rows
Delimiter
Number of columns
Delimiter
...Data Elements…
Delimiter

The "Data Elements" are a series of delimited values preceded by their data type. For example, the pair

1/15/02, 103.21

will be described as

5;01/15/2002;3;103.2100;

where "5" indicates a date, "01/15/2002" is the actual date, "3" indicates a price and "103.2100" is the actual price. A semicolon is the only allowable delimiter in this format. Below is the Bulk Field Data table which provides a list of data types and data element numbers.

Bulk Field Data Element Number	Field Type	Example
1	Character	100BP, APPLE COMPUTERS
2	Numeric	55000, 1234.4321
3	Price	Format according to SPECIALCHAR flag
4	Security	IBM US Equity
5	Date	Format according to DATEFORMAT flag
6	Time	hh:mm:ss, 13:25:42
7	Date or time	Can be either.
8	Bulk	A self-defining data type used to encapsulate multi-dimensional (matrix) data. For more information, refer to the Bulk Format section.
9	Month/Year	12/96
10	Boolean	'Y' or 'N'
11	Currency	USD, United States Dollar
12	Integer	1000, 550000, -3
13	Real	3.6, 1234.3340

Example:
US694032BD48 Corp has the following call schedule:

DATE:	PRICE:
11/ 1/07	103.2035
11/ 1/08	102.8832
11/ 1/09	102.5628
11/ 1/10	102.2425
11/ 1/11	101.9221
11/ 1/12	101.6018
11/ 1/13	101.2814
11/ 1/14	100.9611
11/ 1/15	100.6407
11/ 1/16	100.3204
11/ 1/17	100

This would be described in bulk format as follows (full schedule displayed and new line is for readability only):

```
|;2;11;2;5;11/01/2007;3;103.203500;5;11/01/2008;3;102.883200;5;11
/01/2009;3;102.562800;5;11/01/2010;3;102.242500;5;11/01/2011;3;10
1.922100;5;11/01/2012;3;101.601800;5;11/01/2013;3;101.281400;5;11
/01/2014;3;100.961100;5;11/01/2015;3;100.640700;5;11/01/2016;3;10
0.320400;5;11/01/2017;3;100.000000;|
```

This is translated as:

;	Delimiter
2	Number of dimensions
11	Number of rows
2	Number of columns
5	Next element is a date
11/01/2007	Date
3	Next element is a price
103.203500	Price
...	
5	Next element is a date
11/01/2017	Date
3	Next element is a price
100.000000	Price

Below are examples of getdata reply files in which bulk information is requested using the OUTPUTFORMAT=bulklist (call schedule and index members):

```
START-OF-FILE
RUNDATE=20090513
PROGRAMFLAG=oneshot
FIRMNAME=firmabc
REPLYFILENAME=bulktest.out
OUTPUTFORMAT=bulklist
SECMASTER=yes
PROGRAMNAME=getdata
DATEFORMAT=yyyymmdd
```

```
START-OF-FIELDS
CALL_SCHEDULE
END-OF-FIELDS


TIMESTARTED=Wed May 13 13:09:22 EDT 2009
START-OF-DATA
US694032BD48                                    |11/01/2007|103.203500
US694032BD48                                    |11/01/2008|102.883200
US694032BD48                                    |11/01/2009|102.562800
US694032BD48                                    |11/01/2010|102.242500
US694032BD48                                    |11/01/2011|101.922100
US694032BD48                                    |11/01/2012|101.601800
US694032BD48                                    |11/01/2013|101.281400
US694032BD48                                    |11/01/2014|100.961100
US694032BD48                                    |11/01/2015|100.640700
US694032BD48                                    |11/01/2016|100.320400
US694032BD48                                    |11/01/2017|100.000000
END-OF-DATA
TIMEFINISHED=Wed May 13 13:09:24 EDT 2009
END-OF-FILE


START-OF-FILE
RUNDATE=20090513
PROGRAMFLAG=oneshot
FIRMNAME=firmabc
REPLYFILENAME=members.out
CLOSINGVALUES=yes
DERIVED=yes
HISTORICAL=yes
OUTPUTFORMAT=bulklist
SECMASTER=yes
PROGRAMNAME=getdata



START-OF-FIELDS
INDX_MEMBERS
END-OF-FIELDS

TIMESTARTED=Wed May 13 13:14:50 EDT 2009
START-OF-DATA
INDU Index                                      |AA UN
INDU Index                                      |AXP UN
INDU Index                                      |BA UN
INDU Index                                      |BAC UN
INDU Index                                      |C UN
INDU Index                                      |CAT UN
INDU Index                                      |CVX UN
INDU Index                                      |DD UN
INDU Index                                      |DIS UN
INDU Index                                      |GE UN
```

```
INDU Index                                                      |GM UN
INDU Index                                                      |HD UN
INDU Index                                                      |HPQ UN
INDU Index                                                      |IBM UN
INDU Index                                                      |INTC UW
INDU Index                                                      |JNJ UN
INDU Index                                                      |JPM UN
INDU Index                                                      |KFT UN
INDU Index                                                      |KO UN
INDU Index                                                      |MCD UN
INDU Index                                                      |MMM UN
INDU Index                                                      |MRK UN
INDU Index                                                      |MSFT UW
INDU Index                                                      |PFE UN
INDU Index                                                      |PG UN
INDU Index                                                      |T UN
INDU Index                                                      |UTX UN
INDU Index                                                      |VZ UN
INDU Index                                                      |WMT UN
INDU Index                                                      |XOM UN
END-OF-DATA
TIMEFINISHED=Wed May 13 13:14:52 EDT 2009
```

Clients should be aware that even when specifying OUTPUTFORMAT=bulklist, requesting bulk and non-bulk fields in the same request file will cause bulk fields to return in the standard, semi-colon delimited format.

Special Characters

There is a group of special characters used on the BLOOMBERG PROFESSIONAL™ service to represent fractions that are available to customers by using the SPECIALCHAR option in the header file. These characters can occur in price fields. The characters start with 0x80 and go up sequentially. The list of characters and their translations are:
0x80 - 1/64
0x81 - 1/32
0x82 - 3/64
0x83 - 1/16
…
0xbd - 31/32
0xbe - 63/64
The customer is in no way required to use these characters. These characters (while not printable) are provided so the customer can translate them into their own fraction keys if desired.

Single-Point History

Single-point history fields allow clients to retrieve data on a given historical date. The following single-point history fields may be used with the getdata program (note that the delimiter here is a colon):

BHIS_CLOSE_ON_PX:n:P	Closing Bid Price
BHIS_CLOSE_ON_PX:n:Y	Closing Bid Yield
MHIS_CLOSE_ON_PX:n:P	Closing Price
MHIS_CLOSE_ON_PX:n:Y	Closing Yield
AHIS_CLOSE_ON_PX:n:P	Closing Ask Price
AHIS_CLOSE_ON_PX:n:Y	Closing Ask Yield
HIS_HIGH_ON_PX:n:P	High Price
HIS_HIGH_ON_PX:n:Y	High Yield
HIS_LOW_ON_PX:n:P	Low Price
HIS_LOW_ON_PX:n:Y	Low Yield
HIS_VOL_ON_PX:n:P	Volume
N_DAYS_AGO_PX:n	Date “n” days ago

Except for N_DAYS_AGO_PX, “n” in the above formats can be either number of days (greater than 0) or a date (excluding today). If “n” is specified as a number of days, it means the number of days from today excluding weekends. Note the “P” or “Y” at the end of the field indicates a price or yield, respectively. All of these fields fall under the End-of-Day pricing category, not the History category.

For example:

BHIS_CLOSE_ON_PX:5:P	Bid Price, 5 days ago
AHIS_CLOSE_ON_PX:19971217:P	Ask Price on 12/17/97
N_DAYS_AGO_PX:2	Date 2 days ago

The Single Point History fields will match the attributes of the associated pricing fields. Please see fields.csv for the field attributes:

BHIS_CLOSE_ON_PX:n:P/Y	PX_BID
MHIS_CLOSE_ON_PX:n:P/Y	PX_MID
AHIS_CLOSE_ON_PX:n:P/Y	PX_ASK
HIS_HIGH_ON_PX:n:P/Y	PX_HIGH
HIS_LOW_ON_PX:n:P/Y	PX_LOW
HIS_VOL_ON_PX:n:P/Y	PX_VOLUME

The HIST_CRNCY header option can be used with these fields to override currency. Please see File Header Section for details.

Effective July 30, 2009, it is only possible to request Single-Point History fields for 4 unique dates within a single request. If more than 4 dates are desired, an alternative is to utilize the gethistory program.

Bond Quote Composite

The Data License Bond Quote Composite offers a composite view of bids and asks for all contributed pricing sources to which a client is entitled. This program was developed as an efficient service for snapshot valuations of contributed pricing levels for a custom group of bonds.

Bond Quote Composite data is returned within the bulk field **BOND_QUOTE_COMP**. Request file headers must contain:

SECMASTER=yes
QUOTECOMPOSITE=yes

The field will return, in order, Pricing Source Abbreviation, Pricing Source Name, Time Stamp, Date Stamp, Bid Price, Ask Price, Bid Yield, Ask Yield, Bid Size, Ask Size and Executable Indicator (Y or N). If there is no price available for today, a maximum 7 days of historical quotes is returned.

Data requests are processed upon receipt; the resulting output files are delivered in half-hour intervals, provided the request file is uploaded 15 minutes prior. For example, a file that is posted at 1:10pm will be delivered at 1:30pm.

Sample Bond Quote Composite Request File

```
START-OF-FILE
PROGRAMNAME=getdata
PROGRAMFLAG=oneshot
FIRMNAME=firmabc
QUOTECOMPOSITE=yes
SECMASTER=yes
OUTPUTFORMAT=bulklist

START-OF-FIELDS
BOND_QUOTE_COMP
END-OF-FIELDS

START-OF-DATA
459200AT Corp
END-OF-DATA
END-OF-FILE
```

Sample Bond Quote Composite Output File

```
START-OF-FILE
PROGRAMNAME=getdata
PROGRAMFLAG=oneshot
FIRMNAME=firmabc
QUOTECOMPOSITE=yes
SECMASTER=yes
OUTPUTFORMAT=bulklist

START-OF-FIELDS
BOND_QUOTE_COMP
END-OF-FIELDS
```

```
START-OF-DATA
459200AT Corp|EXCH|EXCHANGE TRADED|09:29:30|4/25/07|99.000|0.000|5.978|0.000|50|0|N
459200AT Corp|FTNF|FTN FINANCIAL|10:24:12|4/25/07|0.000|100.765|0.000|4.910|0|88000|N
459200AT Corp|DAIN|DAIN RAUSCHER|01:51:40|4/25/07|103.300|0.000|3.416|0.000|30000|0|N
459200AT Corp|RBCY|RBC NEW YORK|10:21:37|4/25/07|100.430|100.680|5.110|4.960|500000|19000|N
459200AT Corp|MERX|MERRILL LYNCH CORPS|10:22:41|4/25/07|100.810|100.680|4.883|4.960|0|0|N
459200AT Corp|NMS|NOMURA SECS|10:24:18|4/25/07|100.365|100.455|5.149|5.095|0|0|N
459200AT Corp|MLIX|MERRILL LYNCH FI IDX|00:00:00|4/24/07|100.571|0.000|5.026|0.000|0|0|N
459200AT Corp|NYSE|NEW YORK STOCK EXCH|00:00:00|4/25/07|99.000|0.000|5.978|0.000|50|0|N
459200AT Corp|TRAC|NASD - TRACE|09:43:09|4/25/07|100.752|100.752|4.917|4.917|0|0|N
459200AT Corp|DREU|DRESDNER BANK|10:24:09|4/25/07|100.575|100.658|5.023|4.973|0|0|N
459200AT Corp|BDIR|Jefferies-BD|10:12:31|4/25/07|100.348|0.000|5.160|0.000|250000|0|N
459200AT Corp|GMSO|GMS GROUP INC|10:23:10|4/25/07|100.170|101.003|5.267|4.767|250000|250000|N
459200AT Corp|RBCZ|RBC TORONTO.|10:21:37|4/25/07|100.430|100.680|5.110|4.960|500000|19000|N
459200AT Corp|TRST|NASD TRACE (<=1MM)|09:43:09|4/25/07|100.752|100.752|4.917|4.917|0|0|N
459200AT Corp|TRL1|NASD TRACE (>1MM)|00:00:00|4/20/07|100.558|100.558|5.033|5.033|0|0|N
459200AT Corp|TRMT|NASD TRACE (>=250M)|00:00:00|4/23/07|100.767|100.767|4.908|4.908|0|0|N
459200AT Corp|MSRX|MORGAN STANLEY GWMG|10:23:16|4/25/07|0.000|100.608|0.000|5.003|0|10000|N
459200AT Corp|SNY1|SIAC - NYSE 1|00:00:00|4/25/07|99.000|0.000|5.978|0.000|50|0|N
459200AT Corp|BADR|BoA Securities|10:21:06|4/25/07|100.575|0.000|5.023|0.000|500000|0|N
459200AT Corp|FTID|FT INTERACTIVE DATA|00:00:00|4/24/07|100.571|100.571|5.025|5.025|0|0|N
459200AT Corp|BGN|BLOOMBERG GENERIC|18:05:43|4/24/07|100.539|100.789|5.045|4.895|0|0|N
459200AT Corp|BFV|BLOOMBERG FAIR VALUE|10:24:22|4/25/07|100.463|100.463|5.090|5.090|0|0|N
END-OF-DATA
END-OF-FILE
```

Sample Request File for the getdata Program

```
START-OF-FILE
FIRMNAME=firmabc
REPLYFILENAME=getdatatest.out
SECMASTER=yes
PROGRAMNAME=getdata

START-OF-FIELDS
NAME
TICKER
CPN
MATURITY
END-OF-FIELDS

START-OF-DATA

#Requesting the T14 Govt bond in 4 different ways
912810CY2 |CUSIP
US912810CY20 | ISIN
000863149 | VALOREN
T14 11/15/11 Govt

#Coupon and Maturity do not apply to equities, so blanks are returned
IBM US Equity

#FirmABC is not a valid security, return code 10 and NO data is
returned
FirmABC Equity
END-OF-DATA
END-OF-FILE
```

Sample Reply File for the getdata Program

```
START-OF-FILE
RUNDATE=20050509
PROGRAMFLAG=oneshot
FIRMNAME=firmabc
REPLYFILENAME=getdatatest.out
SECMASTER=yes
PROGRAMNAME=getdata

START-OF-FIELDS
NAME
TICKER
CPN
MATURITY
END-OF-FIELDS

TIMESTARTED=Mon May  9 12:34:47 EDT 2005
START-OF-DATA
#Requesting the T14 Govt bond in 4 different ways
912810CY2|0|4|US TREASURY N/B|T|14.000000|11/15/11|
US912810CY20|0|4|US TREASURY N/B|T|14.000000|11/15/11|
000863149|0|4|US TREASURY N/B|T|14.000000|11/15/11|
T14 11/15/11 Govt|0|4|US TREASURY N/B|T|14.000000|11/15/11|
#Coupon and Maturity do not apply to equities, so blanks are
returned
IBM US Equity|0|4|INTL BUSINESS MACHINES CORP|IBM| | |
#FirmABC is not a valid security, return code 10 and NO data is
returned
FirmABC Equity|10|4| | | | |
END-OF-DATA
TIMEFINISHED=Mon May  9 12:34:49 EDT 2005
END-OF-FILE
```

BVAL Tier 2 Prices in Data License

Overview

Clients who are both Data License Per Security clients and BVAL (Bloomberg's Evaluated Pricing Service) clients can receive BVAL Tier 2 prices via their Data License Per Security Account. There are a few items of note that are different with regards to the account and file setup.

Authorization and Charges

Clients first need to be authorized in order to receive BVAL Tier 2 prices via Data License. In addition, this data carries additional charges. Please contact your Sales representative for more details pertaining to the charges and the authorization process.

Program Support

BVAL prices are currently available via the getdata program (excluding single-point history fields) at this time.

Pricing Source Override

To receive BVAL pricing in getdata, BVAL clients can use any of the four PCS (pricing source) codes:

BVAL (latest BVAL)
BVT4 (Tokyo 4pm)
BVL4 (London 4pm)
BVN4 (NY 4pm)
* Please note: Muni and Mtge only use BVAL and BVN4

BVAL clients who wish to return BVAL prices, must utilize the existing methods of overriding pricing source which include utilizing the PRICING_SOURCE header option, linking to a terminal and changing FMPS<GO>/PCS<GO> defaults or overriding the pricing source on the security level (please see the override section on page 44 for formatting and details). Another alternative is to add the following header options to your request file. For example, if the client wishes to receive BVN4 prices then the header options would be entered as:

EXCLUSIVE_PRICING_SRC=yes
PRICING_SOURCE=BVN4

In this option, only BVN4 prices will be returned for all securities within the client's file. If a BVN4 price is not available, the selected pricing fields will return N.A.

Timing of Posting Request Files

BVAL Tier 2 prices are available 3 hours after a given price snapshot time. For example, a 4pm NY snapshot price is available after 7pm NY. Clients need to have their request files posted to their FTP account after 7pm to ensure that they get the current day's prices. If the request is posted prior to the time the current price is available, the prior snapshot that is most recently available will be delivered.

BVAL OTC

Overview

The" bvalotc" program allows the clients to upload deal contract terms for OTC Derivatives and Structured Products onto the BLOOMBERG PROFESSIONAL service. Currently Bloomberg provides 3 methods to upload (create) and manage BVAL derivative deals on the Terminal:

1. FPML, which is an industry wide markup language for financial products.
2. CVS uploader (Bloomberg's proprietary protocol)
3. Web Services using Bloomberg's schema (XLM)

Authorization and Charges

Clients first need to be authorized in order to be able to upload their contracts onto the BLOOMBERG PROFESSIONAL service. Every uploaded contract is subject to monthly BVAL OTC per security charges. Please contact your Sales representative for more details regarding the charges and the authorization process.

Deal Uploading

Once bvalotc is selected from the Program Name dropdown list, the Request Builder displays the BVAL OTC Upload pane, which allows the clients to specify the name of the file, containing the deal terms (for a single or multiple deals). The preferred format for specifying the deal terms is the Financial Products Markup Language (FpML), although other (including custom) formats are available. The BVAL OTC Product fully covers most common instruments in the derivative market. Bloomberg is using FpML Standard Version 4.75. For more information about FpML, please, see {FPML<GO>} on the BLOOMBERG PROFESSIONAL service.

Besides uploading portfolios in FpML format, clients can also use non-standard/custom formats. This process will be done with coordination with Bloomberg's Financial Engineers team.
Once specified, the file containing the contract terms is Base64 encoded and embedded into the regular Data License request text file in accordance with the MIME encoding guidelines. The following is a sample Data License request file containing an encoded FpML definition of a vanilla interest rate swap contract:

START-OF-FILE
FIRMNAME=dlsales
FILETYPE=pc
USERNUMBER=3305251
PROGRAMFLAG=oneshot
PROGRAMNAME=bvalotc

START-OF-DATA
Content-Type: application/stream
MIME-Version: 1.0
Content-Transfer-Encoding: base64
Content-Disposition: attachment; filename=ird-swap.xml;
PD94bWwgdmVyc2lvbj0iMS4wIiBlbmNvZGluZz0iVVRGLTgiPz48IS0tDQogID09IENvcHlyaWdodCAoYykgMjAwMi0yMDA5LiBBbGwgcmlnaHRzIHJlc2VydmVkLg0KICA9PSBGaW5hbmNpYWwgUHJvZHVjdHMgTWFya3VwIExhbmd1YWdlIGlzIHN1YmplY3QgdG8gd

GhlIEZwTUwgcHVibGljIGxpY2Vuc2UuDQogID09IEEgY29weSBvZiB0aGlzIGxpY2Vuc2
UgaXMgYXZhaWxhYmxl…ZD4NCiAgIDwvcGFydHk+DQo8L0ZwTUw+DQo=

END-OF-DATA
END-OF-FILE

Once the request file is generated, submitted and successfully processed by the BLOOMBERG PROFESSIONAL services deal uploading infrastructure, a response file, containing the BLOOMBERG ID (or multiple IDs) of the uploaded deals is returned to the client. The following is a sample bvalotc response file:

START-OF-FILE
RUNDATE=20100601
REPLYFILENAME=IRS1.outfgfon
FIRMNAME=dl12345
SN=231441
WS=0
FILETYPE=pc
USERNUMBER=3305251
PROGRAMFLAG=oneshot
PROGRAMNAME=bvalotc

TIMESTARTED=Tue Jun 1 12:27:23 EDT 2010
START-OF-DATA
Swap : SLCI002B
ird-swap.xml|0|
END-OF-DATA
TIMEFINISHED=Tue Jun 1 12:27:29 EDT 2010

END-OF-FILE

The returned deal IDs can then be used to retrieve the BVAL OTC instrument prices via the conventional “getdata” program.

Downloading BVAL OTC Prices

Once the deals are successfully loaded onto the BLOOMBERG PROFESSIONAL services, the clients may download the BVAL OTC prices using the conventional getdata program (see getdata program section for more details). **However, in order to make sure that BVAL OTC (as opposed to generic) prices are returned, clients must override the Pricing Source of the file to specify BVAL. This can be done as follows:**

Header option: PRICING_SOURCE=BVAL

Security level override: 123456789 Corp||1|PRICING_SOURCE|BVAL|

Timing of Posting Request Files

Please, see BVIP<GO> for the details of snapshot and delivery times for the BVAL OTC instrument prices.

Gethistory

This program retrieves various historical data fields for the specified list of securities within the given date range. The program can retrieve up to 15,000 points of data per field, with a maximum of 60,000,000 points in horizontal format and 30,000,000 points in vertical format. Fields are listed between the START-OF-FIELDS and END-OF-FIELDS in the request file. For a list of available data fields, see the History Fields table on the following page. Please note, if HIST_FORMAT=horizontal and the field requested is not available in gethistory, the field will return N.A.

For equities, by default, the gethistory program will adjust volume and price history for splits. Historical prices are not adjusted for cash dividends. Clients have the option of changing these parameters by linking their request files to a BLOOMBERG PROFESSIONAL™ terminal in their firm. Please see page 14 for details on linking.

Please see the DATERANGE section for instructions on establishing a date range. The format of a gethistory output file is determined by the HIST_FORMAT option; examples of both formats are shown below.

The gethistory program can be used in conjunction with wildcards. It is thus possible, for example, to ask for bid price, ask price and last trade for all stocks that trade on the London stock exchange from 1990 January 1 to today.

Output files for the gethistory program will be COMPRESSED. If COMPRESS=yes is not in the request file, it will be automatically added. Files may be decompressed using the UNIX tool gunzip or WinZip for PC applications.

Return Codes:

0	Good return. No errors occurred.
-14	Field is not recognized or supported by the gethistory program.
-13	Field is not applicable and is only available for certain types of securities (for Example, PX_EVAL_LEGACY will only return for securities redenominated in Euro.
-12	Field is not available.
-10	Start date > End date.
10	Bloomberg cannot find the security as specified.
11	Restricted Security. Must link to a terminal with access.
990	System Error (Contact Technical Support)
992	Unknown override field.
994	User does not have permission (contractual) to download history for this security.
995	Maximum number of fields exceeded.
996	Buffer Overflow (some data for this security is missing).
998	Security identifier type (e.g. CUSIP) is not recognized.
999	Unloadable security

Applicable gethistory file header options

COMPRESS	HIST_FORMAT	REPORT
DATEFORMAT	HIST_PERIOD	RUNDATE
DATERANGE	HIST_OPTION	SECID
DISPLAY_PRICING_SRC	LAUNCH	SN
EXCLUSIVE_PRICING_SRC	LOGIN	SYSTEM
FILETYPE	PORTSECDES	TIME
FIRMNAME	PRICING_SOURCE	USERNUMBER
HEADER	PROGRAMFLAG	VERSION
FILETYPE	PROGRAMNAME	WS
HEADER	PRP	YELLOWKEY
HIST_CRNCY	REPLYFILENAME	

History Fields

Please refer to the Data Dictionary, 'fields.csv', for a list of fields available in the "gethistory" program.

Vertical Output Format:

START SECURITY | <Identifier> | <Field mnemonic> |
<Identifier>| <Date-1> | <Value-1> |
<Identifier>| <Date-2> | <Value-2> |
...
<Identifier> |<Date-N> | <Value-N>|
END SECURITY | <Identifier> | <Field mnemonic> | <Rcode> |

<Identifier>	Security identifier
<Field mnemonic >	Requested field
<Rcode >	Return code
<Date-1>...<Date-N>	Date of data element #1...Date of data element #N
<Value-1>...<Value-N>	Data element #1...Data element #N

Sample Request File for the gethistory Program with default Vertical format

```
START-OF-FILE
FIRMNAME=firmabc
# Compression is done automatically for ALL gethistory requests
COMPRESS=yes
REPLYFILENAME=testhistorypc.out
DATERANGE=20090504|20090508
PROGRAMNAME=gethistory

START-OF-FIELDS
PX_ASK
PX_BID
END-OF-FIELDS

START-OF-DATA
US912828KN98|ISIN
INTC US Equity
END-OF-DATA
END-OF-FILE
```

Sample Reply File for the gethistory Program with default Vertical format

```
START-OF-FILE
RUNDATE=20050519
PROGRAMFLAG=oneshot
FIRMNAME=firmabc
# Compression is done automatically for ALL gethistory requests
COMPRESS=yes
REPLYFILENAME=testhistorypc.out
DATERANGE=20090504|20090508
PROGRAMNAME=gethistory

START-OF-FIELDS
PX_ASK
PX_BID
END-OF-FIELDS

TIMESTARTED=Mon May 18 10:14:30 EDT 2009
START-OF-DATA
START SECURITY|US912828KN98 |    PX_ASK |
US912828KN98|05/04/2009|99.296875|
US912828KN98|05/05/2009|99.1875|
US912828KN98|05/06/2009|99.171875|
US912828KN98|05/07/2009|98.609375|
US912828KN98|05/08/2009|98.765625|
END SECURITY|US912828KN98 |    PX_ASK | 0 |
START SECURITY|US912828KN98 |    PX_BID |
US912828KN98|05/04/2009|99.28125|
US912828KN98|05/05/2009|99.171875|
US912828KN98|05/06/2009|99.15625|
US912828KN98|05/07/2009|98.59375|
US912828KN98|05/08/2009|98.75|
END SECURITY|US912828KN98 |    PX_BID | 0 |
START SECURITY|INTC US Equity |    PX_ASK |
INTC US Equity|05/04/2009|16.65|
INTC US Equity|05/05/2009|16.16|
INTC US Equity|05/06/2009|16.13|
INTC US Equity|05/07/2009|15.77|
INTC US Equity|05/08/2009|15.32|
END SECURITY|INTC US Equity |    PX_ASK | 0 |
START SECURITY|INTC US Equity |    PX_BID |
INTC US Equity|05/04/2009|16.63|
INTC US Equity|05/05/2009|16.15|
INTC US Equity|05/06/2009|16.12|
INTC US Equity|05/07/2009|15.72|
INTC US Equity|05/08/2009|15.3|
END SECURITY|INTC US Equity |    PX_BID | 0 |
END-OF-DATA
TIMEFINISHED=Mon May 18 10:14:32 EDT 2009
END-OF-FILE
```

Horizontal Output Format:

START-OF-DATA
| <Identifier> | <Rcode> | <NumFields> | <Date-1> | <Value-1> | … <Value-N> |
| <Identifier> | <Rcode> | <NumFields> | <Date-2> | <Value-1> | … <Value-N> |
…
| <Identifier> | <Rcode> | <NumFields> | <Date-N> | <Value-1> | … <Value-N> |
END-OF-DATA

<Identifier>	Security identifier
<Rcode >	Return code
<NumFields>	Number of requested fields
<Date-1>...<Date-N>	Date of data element #1...Date of data element #N
<Value-1>...<Value-N>	Data element #1...Data element #N

| <Identifier> | <Rcode> | <NumFields> | <Date-1> | <Value-1> | … <Value-N> |

Sample Request File for the gethistory Program in horizontal format

```
START-OF-FILE
FIRMNAME=firmabc
# Compression is done automatically for ALL gethistory requests
COMPRESS=yes
REPLYFILENAME=testhistorypc.out
DATERANGE=20090504|20090508
# HIST_FORMAT has been set to horizontal
HIST_FORMAT=horizontal
PROGRAMNAME=gethistory

START-OF-FIELDS
PX_ASK
PX_BID
END-OF-FIELDS

START-OF-DATA
US912828KN98|ISIN
INTC US Equity
END-OF-DATA
END-OF-FILE
```

Sample Reply File for the gethistory Program in horizontal format

```
START-OF-FILE
RUNDATE=20050519
PROGRAMFLAG=oneshot
FIRMNAME=firmabc
# Compression is done automatically for ALL gethistory requests
COMPRESS=yes
REPLYFILENAME=testhistorypc.out
DATERANGE=20090504|20090508
# HIST_FORMAT has been set to horizontal
HIST_FORMAT=horizontal
PROGRAMNAME=gethistory

START-OF-FIELDS
PX_ASK
PX_BID
END-OF-FIELDS

TIMESTARTED=Mon May 18 10:15:17 EDT 2009
START-OF-DATA
US912828KN98|0|2|05/04/2009|99.296875|99.28125|
US912828KN98|0|2|05/05/2009|99.1875|99.171875|
US912828KN98|0|2|05/06/2009|99.171875|99.15625|
US912828KN98|0|2|05/07/2009|98.609375|98.59375|
US912828KN98|0|2|05/08/2009|98.765625|98.75|
INTC US Equity|0|2|05/04/2009|16.65|16.63|
INTC US Equity|0|2|05/05/2009|16.16|16.15|
INTC US Equity|0|2|05/06/2009|16.13|16.12|
INTC US Equity|0|2|05/07/2009|15.77|15.72|
INTC US Equity|0|2|05/08/2009|15.32|15.3|
END-OF-DATA
TIMEFINISHED=Mon May 18 10:15:19 EDT 2009
END-OF-FILE
```

Getticks

This program returns every last sale (price level at which trades were executed) time stamped with date, hour, minute and second. Bloomberg keeps a maximum of 50 trading days of tick data, provided the security has been priced for that amount of time. There is a limit of 20 million individual ticks. When this limit is reached, the reply file will truncate at the previous full record and will display return code 606 (indicating tick limit exceeded).

The getticks program ignores any fields specified between the keywords START-OF-FIELDS and END-OF-FIELDS. Note that the first data point for the getticks program is the most recent tick, followed by older ticks.

Please see the DATERANGE section for instructions on establishing a date range. Many data points can potentially be returned for each date. The getticks program can be used in conjunction with wildcards.

Output files for the getticks program will be COMPRESSED. If COMPRESS=yes is not in the request file, it will be automatically added. Files may be decompressed using the UNIX tool gunzip or WinZip on a PC.

Format: START SECURITY | <Identifier>
<Identifier> |<Month-1/Day-1> | <Time-1> | <Price-1> | <Volume-1> | <Tick code-1> | <Condition code-1>|
<Identifier> |<Month-2/Day-2> | <Time-2> | <Price-2> | <Volume-2> |<Tick code-2> | <Condition code-2>|
...
<Identifier> |<Month-N/Day-N> | <Time-N> | <Price-N> | <Volume-N> |<Tick code-N> | <Condition code-N>|
END SECURITY | <Identifier> | <Field mnemonic> | <Rcode> |

Bloomberg Field	Description
<Identifier>	**Security identifier**
<Month-1/Day-1>...<Month-N/Day-N>	**Month/Day of tick #1...Month/Day of tick #N**
<Time-1>...<Time-N>	**Time of tick #1...Time of tick #N**
<Price-1>...<Price-N>	**Price of tick #1...Price of tick #N**
<Volume-1>...<Volume-N>	**Volume of tick #1...Volume of tick #N**
<Tick Code-1>…<Tick Code-N>	**Exchange code of tick #1 … Exchange code of tick #N**[1]
<Condition code-1>...<Condition code-N>	**Condition code of tick #1...Condition code of tick #N**

[1] If market maker codes are provided on the exchange feed, they will be returned; otherwise, exchange codes will return in the output file.

Note: The getticks program returns multiple condition codes. Commas will separate the codes within the condition code field.

Return Codes:

0	Good return. No errors occurred.
10	Bloomberg cannot find the security as specified.
11	Restricted Security. Must link to a BLOOMBERG PROFESSIONAL™ terminal with access
600	Error retrieving tick data.
601	There are no ticks available for this security on the date range requested.
602	Security not found in tick database.
603	Error retrieving tick data.
604	Invalid dates specified.
605	Permission denied.
606	Tick limit has been exceeded.
990	System Error (Contact Technical Support)
994	Permission denied.
995	Maximum number of fields exceeded.
996	Buffer Overflow (some data for this security is missing).
998	Security identifier type (e.g., CUSIP) is not recognized.
999	Unloadable security

Applicable getticks file header options

COMPRESS	PROGRAMFLAG	TICKADJUSTDATE
DATERANGE	PROGRAMNAME	TICKEXCHLENGTH
FILETYPE	PRP	TICKLOCALTZ
FIRMNAME	REPLYFILENAME	TIME
HEADER	REPORT	USERNUMBER
LAUNCH	RUNDATE	VERSION
LOGIN	SECID	WS
PORTSECDES	SN	YELLOWKEY
PRICING_SOURCE	SYSTEM	

Sample Request File for the getticks Program

```
START-OF-FILE
FIRMNAME=firmabc
COMPRESS=yes
REPLYFILENAME=TestGetticks.out
DATERANGE=20090504|20090505
PROGRAMNAME=getticks


START-OF-DATA
# Microsoft Ticks - will use DATERANGE from file header
MSFT US Equity
# Invalid dates: start date after end date
INTC US Equity||20090506|20090505
# Intel Ticks with different date range than specified in header
INTC US Equity||20090511|20090512
END-OF-DATA
END-OF-FILE
```

Sample Reply File for the getticks Program

```
START-OF-FILE
RUNDATE=20050509
PROGRAMFLAG=oneshot
FIRMNAME=firmabc
COMPRESS=yes
REPLYFILENAME=TestGetticks.out
DATERANGE=20090504|20090505
PROGRAMNAME=getticks

TIMESTARTED=Mon May  18 10:43:14 EDT 2009
START-OF-DATA
# Microsoft Ticks - will use DATERANGE from file header
START SECURITY|MSFT US Equity|
MSFT US Equity|05/05|20:10:00|19.79||D|CC|
MSFT US Equity|05/05|20:10:00|19.81||Z|OC|
MSFT US Equity|05/05|20:10:00|19.81||O|OC|
MSFT US Equity|05/05|20:10:00|19.79||Q|NC|
MSFT US Equity|05/05|20:10:00|19.8||Q|OC|
MSFT US Equity|05/05|20:10:00|19.79||D|OC|
...
MSFT US Equity|05/04|08:00:00|20.27|100|Q|FT|
MSFT US Equity|05/04|08:00:00|20.27|100|Q|FT|
MSFT US Equity|05/04|08:00:00|20.4|100|Q|FT,R6,IS|
MSFT US Equity|05/04|08:00:00|20.35|400|Q|FT,R6,IS|
MSFT US Equity|05/04|07:56:07|20.35|100|Q|FT|
MSFT US Equity|05/04|07:17:06|20.46|300|Q|FT,R6,IS|
END SECURITY|MSFT US Equity |    0 |
# Invalid dates: start date after end date
START SECURITY|INTC US Equity|
END SECURITY|INTC US Equity |  604 |
# Intel Ticks with different date range than specified in header
START SECURITY|INTC US Equity|
INTC US Equity|05/12|18:40:00|24.26||Q|CC|
```

```
INTC US Equity|05/12|18:40:00|24.3|||OC|
INTC US Equity|05/12|18:40:00|24.22||Q|OC|
INTC US Equity|05/12|18:40:00|24.26||Q|NC|
...
INTC US Equity|05/11|08:07:17|23.8|2000|Q|FT|
INTC US Equity|05/11|08:05:45|23.78|3000|Q|FT|
INTC US Equity|05/11|08:05:36|23.78|1000|Q|FT|
INTC US Equity|05/11|08:05:35|23.75|1000|Q|FT|
INTC US Equity|05/11|08:02:04|23.73|46500|Q|FD|
END SECURITY|INTC US Equity |    0 |
END-OF-DATA
TIMEFINISHED=Mon May  18 12:56:58 EDT 2009
END-OF-FILE
```

Getallticks

This program is very similar to the getticks program except that in addition to returning every last sale (price level at which trades were executed), matching ask and bid prices are returned, time stamped with date, hour, minute and second. (For London equities, mid prices are also returned). Bloomberg keeps a maximum of 50 trading days of available tick data, provided the security has been priced for that amount of time. There is a limit of 20 million individual ticks. When this limit is reached, the reply file will truncate at the previous full record and will display return code 606 (indicating tick limit exceeded).

This program is available for equities, preferreds and currencies. The getallticks output format for other security types may default to that of the getticks program; for example, this is the getallticks output for a security listed under the corporate database:

```
START SECURITY|ED000891 Corp|
ED000891 Corp|05/23|17:16:07|82.66|||OC|
ED000891 Corp|05/23|16:34:49|84.16|10000|||
ED000891 Corp|05/23|16:34:49|82.66|10000|||
ED000891 Corp|05/23|11:19:19|86.883|9000|||
ED000891 Corp|05/23|11:19:09|86.883|18000|||
END SECURITY|ED000891 Corp |    0 |
```

To receive NASDAQ Market Maker codes, clients must link their data license file to a BLOOMBERG PROFESSIONAL™ service with Nasdaq Level II subscription. In addition, certain exchanges mandate that a client must be subscribed to real-time pricing for the given exchange in order to download bid and ask prices; an example is the New York Stock Exchange. Please reference the section on linking to a Bloomberg terminal.

For the format on trades, please see the getticks program. For Mid prices on London equities, the format is the same as for trades except that the <Condition code> may be 'Mid' or 'OC' (official close).

Output files for the getallticks program will be COMPRESSED. If COMPRESS=yes is not in the request file, it will be automatically added. Files may be decompressed using the UNIX tool gunzip or, on a PC, WinZip.

Format: *Bid and Ask ticks*

START SECURITY | <Identifier>
<Identifier> |<Month-1/Day-1> | <Time-1> |
<TypeB-1> | <PriceB-1> | <Tick CodeB-1> | <VolumeB-1> |
<TypeA-1> | <PriceA-1> | <Tick CodeA-1> | <VolumeA-1> | <Condition code-1> |
<Identifier> |<Month-2/Day-2> | <Time-2> |
<TypeB-2> | <PriceB-2> | <Tick CodeB-2> | <VolumeB-2> |
<TypeA-2> | <PriceA-2> | <Tick CodeA-2> | <VolumeA-2> | <Condition code-2> |
…
<Identifier> |<Month-N/Day-N> | <Time-N> |
<TypeB-N> | <PriceB-N> | <Tick CodeB-N> | <VolumeB-N> |
<TypeA-N> | <PriceA-N> | <Tick CodeA-N> | <VolumeA-N> | <Condition code-N> |
END SECURITY | <Identifier> | <Rcode> |

Bloomberg Field	Description
<Identifier>	Security identifier
<Month-1/Day-1>...<Month-N/Day-N>	Month/Day of tick #1...Month/Day of tick #N
<TimeB-1>...<TimeB-N>	Time of bid tick #1...Time of bid tick #N
<TypeB-1>…<TypeB-N>	'B' (bid price)
<PriceB-1>...<PriceB-N>	Price of bid tick #1...Price of bid tick #N
<Tick CodeB-1>…<Tick CodeB-N>	Exchange code/market maker code for bid tick #1… Exchange code/market maker code for bid tick #N[1]
<VolumeB-1>...<VolumeB-N>	Volume of bid tick #1...Volume of bid tick #N
<TypeA-1>…<TypeA-N>	'A' (ask price)
<PriceA-1>...<PriceA-N>	Price of ask tick #1...Price of ask tick #N
<Tick CodeA-1>…<Tick CodeA-N>	Exchange code/market maker code for ask tick #1… Exchange code/market maker code for ask tick #N[1]
<VolumeA-1>...<VolumeA-N>	Volume of ask tick #1...Volume of ask tick #N
<Condition code-1>...<Condition code-N>	Condition code of bid and ask ticks #1...Condition code of bid and ask ticks #N

Format: *Trade ticks*
<Identifier> |<Month-1/Day-1> | <Time-1> | <Price-1> | <Volume-1> | <Tick code-1> | <Condition code-1>|
<Identifier> |<Month-2/Day-2> | <Time-2> | <Price-2> | <Volume-2> |<Tick code-2> | <Condition code-2>|
...
<Identifier> |<Month-N/Day-N> | <Time-N> | <Price-N> | <Volume-N> |<Tick code-N> | <Condition code-N>|

Bloomberg Field	Description
<Identifier>	Security identifier
<Month-1/Day-1>...<Month-N/Day-N>	Month/Day of tick #1...Month/Day of tick #N
<Time-1>...<Time-N>	Time of tick #1...Time of tick #N
<Price-1>...<Price-N>	Price of tick #1...Price of tick #N
<Volume-1>...<Volume-N>	Volume of tick #1...Volume of tick #N
<Tick Code-1>…<Tick Code-N>	Exchange code of tick #1 … Exchange code of tick #N[1]
<Condition code-1>...<Condition code-N>	Condition code of tick #1...Condition code of tick #N

[1] If market maker codes are provided on the exchange feed, they will be returned; otherwise, exchange codes will return in the output file.

Note: The getallticks program returns multiple condition codes. Commas will separate the codes within the condition code field.

Return Codes:

0	Good return. No errors occurred
10	Bloomberg cannot find the security as specified.
11	Restricted Security. Must link to a BLOOMBERG PROFESSIONAL™ terminal with access.
600	Error retrieving tick data.
601	There are no ticks available for this security on the date range requested.
602	Security not found in tick database.
603	Error retrieving tick data.
604	Invalid dates specified.
605	Permission denied.
606	Tick limit has been exceeded.
650	Invalid security type.
651	Internal database error.
990	System Error (Contact Technical Support)

Applicable getallticks file header options

COMPRESS	PROGRAMFLAG	TICKADJUSTDATE
DATERANGE	PROGRAMNAME	TICKEXCHLENGTH
FILETYPE	PRP	TICKLOCALTZ
FIRMNAME	REPLYFILENAME	TIME
HEADER	REPORT	USERNUMBER
LAUNCH	RUNDATE	VERSION
LOGIN	SECID	WS
PORTSECDES	SN	YELLOWKEY
PRICING_SOURCE	SYSTEM	

Sample Request File for the getallticks Program

```
START-OF-FILE
FIRMNAME=firmabc
COMPRESS=yes
REPLYFILENAME=TestGetallticks.out
DATERANGE=20090505|20090506
PROGRAMNAME=getallticks


START-OF-DATA
# Yahoo ticks
YHOO US Equity
# Unknown security
FirmABC Equity
# Invalid dates - start date after end date
INTC US Equity||20090508|20090507
END-OF-DATA
END-OF-FILE
```

Sample Reply File for the getallticks Program

```
START-OF-FILE
PROGRAMFLAG=oneshot
FIRMNAME=firmabc
COMPRESS=yes
REPLYFILENAME=TestGetallticks.out
DATERANGE=20090505|20090506
PROGRAMNAME=getallticks

TIMESTARTED=Mon May 18 11:54:03 EDT 2009
START-OF-DATA
# Yahoo ticks
START SECURITY|YHOO US Equity|
YHOO US Equity|05/06|20:10:00|T|14.85|D||CC|
YHOO US Equity|05/06|20:10:00|T|14.85|Z||OC|
YHOO US Equity|05/06|20:10:00|T|14.76|O||OC|
YHOO US Equity|05/06|20:10:00|T|14.85|Q||NC|
YHOO US Equity|05/06|20:10:00|T|14.85|Q||OC|
YHOO US Equity|05/06|20:10:00|T|14.635|N||OC|
. . .
YHOO US Equity|05/05|07:12:29|B|13.96||1|A|14.5||50||
YHOO US Equity|05/05|07:12:21|B|13.96||1|A|14.99||5||
YHOO US Equity|05/05|07:12:21|B|13.96||1|A|15.||52||
YHOO US Equity|05/05|06:34:51|B|13.96||1|A|14.9||50||
YHOO US Equity|05/05|06:34:47|B|13.96||1|A|15.||52||
YHOO US Equity|05/05|04:15:06|B|13.96||1|A|15.||2||

END SECURITY|YHOO US Equity |    0 |
# Unknown security
START SECURITY|FirmABC Equity|
END SECURITY|FirmABC Equity |   10 |
# Invalid dates - start date after end date
START SECURITY|INTC US Equity|
END SECURITY|INTC US Equity |  604 |
END-OF-DATA
TIMEFINISHED=Mon May 18 11:57:22 EDT 2009
END-OF-FILE
```

Getquotes

This program returns every last sale (price level at which trades were executed) time stamped with date, hour, minute and second. Bloomberg currently supports a maximum of 3 trading days of tick data in the getquotes program, provided the security has been priced for that amount of time. Bloomberg keeps a maximum of 240 trading days of available tick data, provided the security has been priced for that amount of time. There is a limit of 20 million individual ticks. When this limit is reached, the reply file will truncate at the previous full record and will display return code 606 (indicating tick limit exceeded).

The getquotes program ignores any fields specified between the keywords START-OF-FIELDS and END-OF-FIELDS. Note that the first data point for the getquotes program is the most recent tick, followed by older ticks.

Please see the DATERANGE and DATETIMERANGE sections for instructions on establishing a date and time range. Many data points can potentially be returned for each date. The getquotes program can be used in conjunction with wildcards.

Output files for the getquotes program will be COMPRESSED. If COMPRESS=yes is not in the request file, it will be automatically added. Files may be decompressed using the UNIX tool gunzip or WinZip on a PC.

Format:
START SECURITY | <Identifier>|<Exchange Code>|
<Month-1/Day-1>|<Time-1>|<Price-1>|<Volume-1>|<Tick code-1>|<Condition code-1>|
<Month-2/Day-2>|<Time-2>|<Price-2>|<Volume-2>|<Tick code-2>|<Condition code-2>|
...
<Month-N/Day-N>|<Time-N>|<Price-N>|<Volume-N>|<Tick code-N>|<Condition code-N>|
END SECURITY|<Identifier>|<Rcode>|

<Identifier> is controlled by the SECDESFIRSTCOL header option, the default is 'No'.

Bloomberg Field	Description
<Identifier>	**Security identifier**
<Month-1/Day-1>...<Month-N/Day-N>	**Month/Day of tick #1...Month/Day of tick #N**
<Time-1>...<Time-N>	**Time of tick #1...Time of tick #N**
<Price-1>...<Price-N>	**Price of tick #1...Price of tick #N**
<Volume-1>...<Volume-N>	**Volume of tick #1...Volume of tick #N**
<Tick Code-1>…<Tick Code-N>	**Exchange code of tick #1 … Exchange code of tick #N**[1]
<Condition code-1>...<Condition code-N>	**Condition code of tick #1...Condition code of tick #N**

Note: The getquotes program returns multiple condition codes. Commas will separate the codes within the condition code field.

Return Codes:

0	Good return. No errors occurred.
10	Bloomberg cannot find the security as specified.
11	Restricted Security. Must link to a BLOOMBERG PROFESSIONAL™ terminal with access
600	Error retrieving tick data.
601	There are no ticks available for this security on the date range requested.
602	Security not found in tick database.
603	Error retrieving tick data.
604	Invalid dates specified.
605	Permission denied.
606	Tick limit has been exceeded.
990	System Error (Contact Technical Support)
994	Permission denied.
995	Maximum number of fields exceeded.
996	Buffer Overflow (some data for this security is missing).
998	Security identifier type (e.g., CUSIP) is not recognized.
999	System Error (Contact Technical Support)

Applicable getquotes file header options

COMPRESS	PORTSECDES	SYSTEM
DATERANGE	PRICING_SOURCE	TICKEXCHLENGTH
DATETIMERANGE	PROGRAMFLAG	TICKLOCALTZ
DISPLAYQRMDATE	PROGRAMNAME	TICKOUTPUTTZ
FILETYPE	PRP	TIME
FIRMNAME	REPLYFILENAME	USERNUMBER
HEADER	REPORT	VERSION
LAUNCH	RUNDATE	WS
LOGIN	SECID	YELLOWKEY
MATCHGETTICKSCOLS	SN	

Sample Request File for the getquotes Program

```
START-OF-FILE
FIRMNAME=firmabc
COMPRESS=yes
FILETYPE=pc
REPLYFILENAME=testgetquotes.out
DATERANGE=20090320|20090320
PROGRAMNAME=getquotes

START-OF-DATA
EDPR PL Equity
END-OF-DATA
END-OF-FILE
```

Sample Reply File for the getquotes Program

```
START-OF-FILE
RUNDATE=20090320
PROGRAMFLAG=oneshot
FIRMNAME=firmabc
COMPRESS=yes
FILETYPE=pc
REPLYFILENAME=getquotes.out
DATERANGE=20090320|20090320
VERSION=new
PROGRAMNAME=getquotes

TIMESTARTED=Fri Mar 20 12:35:28 EDT 2009
START-OF-DATA
START SECURITY|EDPR PL Equity|PL|
## in: 20090320 to 20090320 [13 (New York-DST)]
## out:20090320_00:00:00 to 20090320_23:59:59 [13 (New York-DST)]
03/20|12:35:04|6.15|6715|L|AU|
03/20|12:35:04|6.15|1000|L|AU|
03/20|12:35:04|6.15|1500|L|AU|
03/20|12:35:04|6.15|2500|L|AU|
03/20|12:35:04|6.15|5000|L|AU|
03/20|12:35:04|6.15|1260|L|AU|
03/20|12:35:04|6.15|487|L|AU|
03/20|12:35:04|6.15|211|L|AU|
03/20|12:35:04|6.15|175|L|AU|
....
END SECURITY|EDPR PL Equity|0|
END-OF-DATA
TIMEFINISHED=Fri Mar 20 12:35:37 EDT 2009
END-OF-FILE
```

Getallquotes

This program is similar to the getquotes program except that in addition to returning every last sale (price level at which trades were executed), matching ask and bid prices are returned, time stamped with date, hour, minute and second. Bloomberg keeps a maximum of 240 trading days of available tick data, provided the security has been priced for that amount of time. There is a limit of 20 million individual ticks. When this limit is reached, the reply file will truncate at the previous full record and will display return code 606 (indicating tick limit exceeded).
For London equities, mid prices are also returned. The program is available for all security types that Bloomberg has tick data for.

To receive NASDAQ Market Maker codes, clients must link their data license file to a BLOOMBERG PROFESSIONAL™ service with Nasdaq Level II subscription. In addition, certain exchanges mandate that a client must be subscribed to real-time pricing for the given exchange in order to download bid and ask prices; an example is the New York Stock Exchange. Please reference the section on linking to a Bloomberg terminal. For the format on trades, please see the getquotes program.

Please see the DATERANGE and DATETIMERANGE sections for instructions on establishing a date and time range. Many data points can potentially be returned for each date. The getallquotes program can be used in conjunction with wildcards.

Output files for the getallquotes program will be COMPRESSED. If COMPRESS=yes is not in the request file, it will be automatically added. Files may be decompressed using the UNIX tool gunzip or WinZip on a PC.

Format: *Bid and Ask ticks*
START SECURITY | <Identifier>|Exchange Code|
<Month-1/Day-1>|<Time-1>|<TypeB-1>|<PriceB-1>|<MarketMakerB-1>
|<Exchange/Source CodeB-1>|<VolumeB-1>|<TypeA-1>|<PriceA-1>|<MarketMakerA-1>
|<Exchange/Source CodeA-1>|<VolumeA-1>| <Condition code-1>|
<Month-2/Day-2>|<Time-2>|<TypeB-2>|<PriceB-2>|<MarketMakerB-2>
|<Exchange/Source CodeB-2>|<VolumeB-2>|<TypeA-2>|<PriceA-2>|<MarketMakerA-2>|<Exchange/Source CodeA-2>|<VolumeA-2>| <Condition code-2>|
…
<Month-N/Day-N>|<Time-N>|<TypeB-N>|<PriceB-N>|<MarketMakerB-N>
|<Exchange/Source CodeB-N>|<VolumeB-N>|<TypeA-N>|<PriceA-N>|<MarketMakerA-N>|<Exchange/Source CodeA-N>|<VolumeA-N>| <Condition code-N>|
END SECURITY|<Identifier>|<Rcode>|

MATCHGETTICKSCOLS=yes will merge MarkerMaker and Exchange/Source Columns

Bloomberg Field	Description
<Identifier>	Security identifier
<Month-1/Day-1>...<Month-N/Day-N>	Month/Day of tick #1...Month/Day of tick #N
<TimeB-1>...<TimeB-N>	Time of bid tick #1...Time of bid tick #N
<TypeB-1>…<TypeB-N>	'B' (bid price)
<PriceB-1>...<PriceB-N>	Price of bid tick #1...Price of bid tick #N
<Tick CodeB-1>…<Tick CodeB-N>	Exchange code/market maker code for

Bloomberg Field	Description
	bid tick #1… Exchange code/market maker code for bid tick #N[1]
<VolumeB-1>...<VolumeB-N>	Volume of bid tick #1...Volume of bid tick #N
<TypeA-1>…<TypeA-N>	'A' (ask price)
<PriceA-1>...<PriceA-N>	Price of ask tick #1...Price of ask tick #N
<Tick CodeA-1>…<Tick CodeA-N>	Exchange code/market maker code for ask tick #1… Exchange code/market maker code for ask tick #N[1]
<MarketMakerB-1>…<MarketMakerB-N>	MarketMaker Bid tick#1… MarketMaker Bid tick#1…
<MarketMakerA-1>…<MarketMakerA-N>	MarketMaker Ask tick#1… MarketMaker Ask tick#1…
<Exchange/Source CodeB-1>…<Exchange/Source Code B-N>	Exchange /Source for Bid tick #1… Exchange/Source for Bid tick#N
<Exchange/Source CodeA-1>…<Exchange/Source Code A-N>	Exchange /Source for Ask tick #1… Exchange/Source for Ask tick#N
<VolumeA-1>...<VolumeA-N>	Volume of ask tick #1...Volume of ask tick #N
<Condition code-1>...<Condition code-N>	Condition code of bid and ask ticks #1...Condition code of bid and ask ticks #N

Format: *Trade ticks*

START SECURITY | <Identifier>
<Identifier>|<Month-1/Day-1>|<Time-1>|<TypeT-1>|<Price-1>|<MarketMaker-1>|
<Tick code-1>|<Volume-1>|<Condition code-1>|
<Identifier>|<Month-2/Day-2>|<Time-2>|<TypeT-2>|<Price-2>| <MarketMaker-2>|
<Tick code-2>|<Volume-2>|<Condition code-2>|
...
<Identifier>|<Month-N/Day-N>|<Time-N>| <TypeT-N>|<Price-N>| <MarketMaker-N>|
<Tick code-N>|<Volume-N>|<Condition code-N>|
END SECURITY|<Identifier>|<Field mnemonic>|<Rcode>|

Bloomberg Field	Description
<Identifier>	Security identifier
<Month-1/Day-1>...<Month-N/Day-N>	Month/Day of tick #1...Month/Day of tick #N
<Time-1>...<Time-N>	Time of tick #1...Time of tick #N
<TypeT-1>…<TypeT-N>	'T' (trade price)
<Price-1>...<Price-N>	Price of tick #1...Price of tick #N
<MarketMaker-1>…<MarketMaker-N>| >	
<Tick Code-1>…<Tick Code-N>	Exchange code of tick #1 … Exchange code of tick #N[1]
<Volume-1>...<Volume-N>	Volume of tick #1...Volume of tick #N
<Condition code-1>...<Condition code-N>	Condition code of tick #1...Condition code of tick #N

Note: The getallquotes program returns multiple condition codes. Commas will separate the codes within the condition code field.

<Identifier> is controlled by the SECDESFIRSTCOL header option, the default is 'no'.

Return Codes:

0	Good return. No errors occurred.
10	Bloomberg cannot find the security as specified.
11	Restricted Security. Must link to a BLOOMBERG PROFESSIONAL™ terminal with access
600	Error retrieving tick data.
601	There are no ticks available for this security on the date range requested.
602	Security not found in tick database.
603	Error retrieving tick data.
604	Invalid dates specified.
605	Permission denied.
606	Tick limit has been exceeded.
990	System Error (Contact Technical Support)
994	Permission denied.
995	Maximum number of fields exceeded.
996	Buffer Overflow (some data for this security is missing).
998	Security identifier type (e.g., CUSIP) is not recognized.
999	System Error (Contact Technical Support)

Applicable getallquotes file header options

COMPRESS	PORTSECDES	SYSTEM
DATERANGE	PRICING_SOURCE	TICKEXCHLENGTH
DATETIMERANGE	PROGRAMFLAG	TICKLOCALTZ
DISPLAYQRMDATE	PROGRAMNAME	TICKOUTPUTTZ
FILETYPE	PRP	TIME
FIRMNAME	REPLYFILENAME	USERNUMBER
HEADER	REPORT	VERSION
LAUNCH	RUNDATE	WS
LOGIN	SECID	YELLOWKEY
MATCHGETTICKSCOLS	SN	

Sample Request File for the getallquotes Program

```
START-OF-FILE
FIRMNAME=firmabc
COMPRESS=yes
FILETYPE=pc
REPLYFILENAME=getallquotes.out
DATERANGE=20090320|20090320
VERSION=new
PROGRAMNAME=getallquotes

START-OF-DATA
EDPR PL Equity
END-OF-DATA
END-OF-FILE
```

Sample Reply File for the getallquotes Program

```
START-OF-FILE
RUNDATE=20090320
PROGRAMFLAG=oneshot
FIRMNAME=firmabc
COMPRESS=yes
FILETYPE=pc
REPLYFILENAME=getallquotes.out
DATERANGE=20090320|20090320
VERSION=new
PROGRAMNAME=getallquotes

TIMESTARTED=Fri Mar 20 12:52:48 EDT 2009
START-OF-DATA
START SECURITY|EDPR PL Equity|PL|
## in: 20090320 to 20090320 [13 (New York-DST)]
## out:20090320_00:00:00 to 20090320_23:59:59 [13 (New York-DST)]
03/20|12:39:32|B|6.15|L|4300|A|6.168|L|1307||
03/20|12:37:24|B|6.15|L|820|A|6.168|L|1307||
03/20|12:35:55|B|6.15|L|4300|A|6.168|L|1307||
03/20|12:35:22|B|6.15|L|3480|A|6.168|L|1307||
03/20|12:35:22|B|6.145|L|9309|A|6.168|L|1307||
03/20|12:35:04|B|6.15|L|23480|A|6.168|L|1307||
03/20|12:35:04|T|6.15|L|6715|AU|
03/20|12:35:04|T|6.15|L|1000|AU|
03/20|12:35:04|T|6.15|L|1500|AU|
03/20|12:35:04|T|6.15|L|2500|AU|
03/20|12:35:04|T|6.15|L|5000|AU|
.....
END SECURITY|EDPR PL Equity|0|
END-OF-DATA
TIMEFINISHED=Fri Mar 20 12:52:53 EDT 2009
END-OF-FILE
```

Getactions

For each security in the request file, the getactions program will return corporate actions that apply to that security and its issuer. For example, specifying **IBM US Equity** in a getactions request file will return actions specific to that common stock (e.g., a cash dividend) as well as actions specific to International Business Machines (e.g., an acquisition). The getactions program can be used in conjunction with wildcards.

By default, Bloomberg matches the securities in the request file with corporate actions that were entered into the Bloomberg databases in the 24 hours previous to the start of a request file's processing. The ACTIONS_DATE option can be used to match the securities against corporate actions that became effective on the date of the request.

Additional options for Corporate Actions:

- ACTIONS - used to specify action types or action categories.
- DATERANGE - can be used to retrieve actions (based on entry date, effective date, or both) up to a maximum of seven days prior to the request date. A "day" is in a New York time day, midnight to midnight. Additionally, actions that will become effective on a future date can be requested. Clients can request corporate actions data for up to one year in the future.ACTIONS_DATE will need to be set to effective for future date requests. NOTE: *The output for a future date request will contain only those actions available at the time of the request*. Additional actions may be entered into the Bloomberg Corporate Action database after the output is provided.

For details about the above options, please see the **File Header** Section.

Corporate actions are divided into three categories: corporate events, capital change and distributions. The Data License Corporate Actions Reference Guide provides a list of all corporate actions that fall under these categories. The guide also provides a list of data items (fields) returned for each action together with definitions, field mnemonics and field types.

Please see the file Corporate_Actions.pdf in the Notices folder in the client's home directory for the fields returned for each action type.

By default, the getactions program will return all applicable corporate actions for the securities listed between START-OF-DATA and END-OF-DATA. However, it is possible to filter on certain corporate actions or categories of corporate actions by using the ACTIONS header variable (see File Header Section). Note: The available categories are CORPORATE_EVENTS, CAPITAL_CHANGE and DISTRIBUTIONS.

Format:

<Identifier> | <Bloomberg Company ID > | <Bloomberg Security ID> | <Rcode> | <Action ID> | <Mnemonic> | <Flag> | <Company Name> | <SecID-type> | <SecID> | <Currency> | <Market Sector Description> | <Bloomberg Unique ID> | <Ann-date> | <Eff-date> | <Amd-date>| <Nfields> | <fld-mnemo1> | <Value-1> | … |<fld-mnemoN> | <Value-N> |

The below table includes the standard fields included with every corporate action record, along with a field description, and field information such as field type and standard width:

Bloomberg Field	Field Description	Field Type (Standard Width)
<Identifier>	Security identifier used in the request file	Character (32)
<Bloomberg Company ID>	Number that uniquely identifies a company	Integer (8)
<Bloomberg Security ID>	Number that in combinations with Bloomberg Company ID such as Acquisition this field is set to 0.	Integer (8)
<Rcode >	Return code	Integer (4)
<Action ID>	A unique action identifier assigned to corporate actions. An update or delete of an action will have the same Action ID as the initial entry of the action. Additionally, acquisitions and divestitures have the same Action ID. These IDs can be seen in the CACT <go> screen of the BLOOMBERG Professional.	Integer (10)
<Mnemonic>	Mnemonic for corporate action	Character (18)
<Flag>	Status of the action at the moment of the request. Returns N for an action that has been entered and has received no subsequent update, U for an action that has been updated since its entry, and D for a deleted action. NOTE 1: Clients should load actions with the first appearance of an Action ID whether the flag is an N or a U. NOTE 2: If D is returned as a Flag, CP_DELETE_REASON will be provided the only non-standard field for the action. Possible returns are 1 for CANCEL and 2 for MISTAKE. NOTE 3: If an action appears for the first time with a D flag, clients should not load the action.	Character (4)
<Company Name>	Name of the company	Character (80)

Bloomberg Field	Field Description	Field Type (Standard Width)
<SecID type>	Type of security ID. For Bonds: CUSIP, ISIN, BBID (Bloomberg ID), BB_UNIQUE; For Equities, CUSIP, ISIN, VALOREN, SEDOL, BELGIAN, WPK, SICOVAM, FONDS, BB_UNIQUE. The system will return the first available identifier type within this hierarchy.	Character (16)
< SecID>	The security ID.	Character (30)
< Currency>	Currency of security (ISO code)	Character (4)
<Market Sector Description>	The name of the market sector yellow key on the BLOOMBERG™ Professional Service that the security is located under.	Character (6)
<Bloomberg Unique ID>	A unique number assigned by Bloomberg to all securities.	Character (30)
< Ann-date>	Date when the corporate action is announced.	Date (10)
< Eff-date>	Date when the corporate action becomes effective. The field will return a value of "N.A." for the following actions when they are in "To Be Announced" status (CP_INDICATOR=T): DVD_CASH DVD_STOCK STOCK_SPLT SPIN RIGHTS_OFFER	Date (10)
<Amd-date>	Date when the corporate action was updated. Valid only when <Flag> is "U", otherwise it will be "N.A."	Date (10)
<Nfields>	Number of fields.	Integer (4)
< fld-mnemo1 >...< fld-mnemoN >	Mnemonic identifying data elements #1 ... #N	Varies by action
<Value-1>...<Value-Nfields>	Data element #1...#N	Varies by action

Return Codes:

The following return codes are currently defined:

0	Good return. No errors occurred.
10	Bloomberg cannot find the security as specified.
11	Restricted Security. Must link to a BLOOMBERG PROFESSIONAL™ terminal with access
300	No corporate actions were found for given security.
400	Corporate actions are not applicable for requested security (e.g., CMO)
990	System Error (Contact Technical Support)
994	Permission denied.
995	Maximum number of fields exceeded.
996	Buffer Overflow (some data for this security is missing).
998	Security identifier type (e.g., CUSIP) is not recognized.
999	Unloadable security

Applicable getactions file header options

ACTIONS	LAUNCH	SECID
ACTIONS_DATE	LOGIN	SN
COMPRESS	PORTSECDES	SYSTEM
DATEFORMAT	PROGRAMFLAG	TIME
DATERANGE	PROGRAMNAME	USERNUMBER
FILETYPE	PRP	VERSION
FIRMNAME	REPLYFILENAME	WS
HEADER	RUNDATE	YELLOWKEY

Sample Request File for the getactions Program

```
START-OF-FILE
FIRMNAME=firmabc
REPLYFILENAME=TestActions.out
# Looking for Ticker Changes on the specified securities
ACTIONS=CHG_TKR
# Returning actions based on BOTH entry and effective dates
ACTIONS_DATE=both
DATERANGE=20090518|20090525
PROGRAMNAME=getactions

START-OF-DATA
# Three equities and one unknown security
# The two below securities had actions within this date range
3928 HK Equity
SECT US Equity
```

```
# A return code of 300 indicates there is no corporate action for
# this security
IBM Equity
# A return code of 10 indicates that Bloomberg did not recognize
# the security
FIRMABC Equity
END-OF-DATA
END-OF-FILE
```

Sample Reply File for the getactions Program

Note that each corporate action is returned as one record. There are also no empty lines between corporate actions. The example below has been slightly altered for readability.

```
START-OF-FILE
PROGRAMFLAG=oneshot
FIRMNAME=firmabc
REPLYFILENAME=TestActions.out
# Looking for Ticker Changes on the specified securities
ACTIONS=CHG_TKR
# Returning actions based on BOTH entry and effective dates
ACTIONS_DATE=both
DATERANGE=20090518|20090525
PROGRAMNAME=getactions

TIMESTARTED=Mon May 18 13:33:50 EDT 2009
START-OF-DATA
# Returning corporate actions entered between 00:00 EDT on 20090518 and
23:59 EDT on 20090525
# Returning corporate actions effective between 20090518 and 20090525
# Three equities and one unknown security
# The two below securities had actions within this date range
2975 HK Equity|116526|1000|0|17985085|CHG_TKR|N|Northern
International Holdings Ltd|ISIN|BMG6633T1356|HKD|Equity|
EQ0011652600001000|05/05/2005| 05/20/2005|N.A.|3|CP_OLD_TKR|
2975 HK|CP_NEW_TKR|736 HK|CP_NOTES|N.A.|
KKI LN Equity|125626|1002|0|18121712|CHG_TKR|N|Opus International
Group Plc|ISIN|GB0004935036|GBp|Equity|EQ0012562600001002|
05/19/2005| 05/20/2005|N.A.|3|CP_OLD_TKR|KKI LN|CP_NEW_TKR|
OPU LN|CP_NOTES|N.A.|
# A return code of 300 indicates there is no corporate action for
# this security
IBM Equity|100801|1000|300|
# A return code of 10 indicates that Bloomberg did not recognize
# the security
FIRMABC Equity|0|0|10|
END-OF-DATA
TIMEFINISHED=Mon May 18 13:33:53 EDT 2009
END-OF-FILE
```

Corporate actions are divided into three categories: Corporate Events, Capital Change, and Distributions. A list of data items (fields) returned for each action together with a definition, a field mnemonic, and a field type can be obtained in the Corporate_Actions.pdf file located in the Notices subdirectory of the client's home directory.

Note: Bloomberg can add new action types as well as new fields to a specific action at any time. Clients will be notified of changes prior to the effective date so that accommodations for code change can be made.

The chart below lists all available actions for each category:

Corporate Action Categories		
Corporate Events	**Capital Change**	**Distributions**
Name Change	Spin-off	Cash Dividends
Domicile Change	Bankruptcy Filing	Stock Dividend
State of Incorporation Change	Stock Buyback	Stock Split
Round Lot Change	Equity Offering	
Ticker Symbol Change	Debt Redemption Call	
ID Number Change	Debt Offering/Increase	
Equity Delisting	Debt Offering/New	
Change in Listing	Par Value Change	
Equity Listing	Debt Redemption Sinker	
Currency Quotation Change	Acquisition	
Reconvention	Divestiture	
Redenomination	Installment Call - Partial Pay	
Shareholder Meeting	Reclassification	
	Debt Repurchase	
	Debt Redemption/Put	
	Exchange Offers	
	Variable Principle Redemption	
	Pay in Kind	
	Rights Offering	
	Conversion Price Refix	
	Funged Issues	
	Extendible Issues	

The ACTION_DATE flag can be used with a getactions request to modify whether the reply file will return actions based on effective date, entry date, or both.

Getcompany

This program returns company/entity level data such as industry classification, country of risk, and country of domicile for a given security/company ID. For the full list of available fields, please see crisk_fields.csv, which can be found in the root directory of client FTP servers. **Only those fields listed in this file will be available in this program**. Fields can be specified explicitly or can be requested via the Field Set macros below. The program supports requests by security/ticker or by entity/company ID.

This program requires the inclusion of header option CREDITRISK=Yes in the request file. It also requires that ID_BB_COMPANY be included within the fields list. If ID_BB_COMPANY is not included, an error report will be generated and no data will be returned.

Format:|<Identifier> |<Rcode> | <Nfields> | <Value-1> | <Value-2> | ....| <Value-Nfields>|

<Identifier>	Security/Company identifier used in the request file
<Rcode>	Return Code
<Nfields>	Number of fields requested and received
<Value-1>….<Value-Nfields>	Data element #1… Data element # Nfields

Return Codes:

0	Good return. No errors occurred.
10	Bloomberg cannot find the security as specified.
11	Security found, but no associated company
12	Bloomberg cannot find the security and the identifier syntax/format is incorrect
988	System Error on security level
990	System Error (Contact Technical Support)
994	Permission denied (Contact DL Sales Rep)
996	Buffer Overflow (some data for this security is missing).
998	Security identifier type (e.g., CUSIP) is not recognized.
999	Unloadable security

Applicable getcompany file header options

COLUMNHEADER	LAUNCH	SN
COMPRESS	LOGIN	SPECIALCHAR
CREDITRISK	OUTPUTFORMAT	SYSTEM
DATEFORMAT	PORTSECDES	TIME
DELIMITER	REPLYFILENAME	USERNUMBER
FIELDSET	REPORT	VERSION
FILETYPE	RUNDATE	WS
FIRMNAME	SECDESLENGTH	YELLOWKEY
HEADER	SECID	

Field Set Macro

Getcompany has a new option, the FIELDSET macro, which offers the ability to include all fields available in the Credit Risk BackOffice module without explicitly listing each field individually.

Format: FIELDSET=<FieldMacro> | <Date>

<FieldMacro> Macro name – corresponds to Credit Risk BackOffice file
<Date> Optional. This represents the effective date of when the field set was released into production. Setting this field to a specific date will prevent future releases of field sets from impacting existing requests and reply files. Format is YYYYMMDD. Default is the current date if not specified.

The following **Field Macros** are currently available:

BO_CREDIT_RISK_COMPANY	fields included in credit_risk.out
BO_CREDIT_RISK_FITCH	fields included in credit_risk_fitch.out
BO_CREDIT_RISK_MOODY	fields included in credit_risk_moody.out
BO_CREDIT_RISK_RATINGS1	fields included in credit_risk_ratings1.out
BO_CREDIT_RISK_SP	fields included in credit_risk_sp.out

The list of fields can be found in the *crisklayout.xls* file located in the notices sub-directory on your ftp server.

Sample Request File for the getcompany Program (using Security)

```
START-OF-FILE
FIRMNAME=firmabc
REPLYFILENAME=getcompanytest.out
CREDITRISK=yes
PROGRAMNAME=getcompany

START-OF-FIELDS
ID_BB_COMPANY
CNTRY_OF_RISK
IS_ULT_PARENT
END-OF-FIELDS

START-OF-DATA
IBM US Equity
END-OF-DATA
END-OF-FILE
```

Sample Reply File for the getcompany Program (using Security)

```
START-OF-FILE
PROGRAMFLAG=oneshot
FIRMNAME=firmabc
REPLYFILENAME=getcompanytest.out
CREDITRISK=yes
PROGRAMNAME=getcompany

START-OF-FIELDS
ID_BB_COMPANY
CNTRY_OF_RISK
IS_ULT_PARENT
END-OF-FIELDS

TIMESTARTED=Mon May  18 13:03:45 EST 2009
START-OF-DATA
IBM US Equity|0|3|100801|US|Y|
END-OF-DATA
TIMEFINISHED=Mon May  18 13:03:47 EST 2009
DATARECORDS=1
END-OF-FILE
```

Sample Request File for the getcompany Program (using Company ID)

```
START-OF-FILE
FIRMNAME=firmabc
REPLYFILENAME=getcompany_id_bb.out
CREDITRISK=yes
SECID=BB_COMPANY
PROGRAMNAME=getcompany

START-OF-FIELDS
ID_BB_COMPANY
LONG_COMP_NAME
CNTRY_OF_RISK
IS_ULT_PARENT
END-OF-FIELDS

START-OF-DATA
100801
END-OF-DATA
END-OF-FILE
```

Sample Reply File for the getcompany Program (company ID)

```
START-OF-FILE
RUNDATE=20090518
PROGRAMFLAG=oneshot
FIRMNAME=firmabc
REPLYFILENAME=getcompany_id_bb.out
CREDITRISK=yes
SECID=BB_COMPANY
PROGRAMNAME=getcompany

START-OF-FIELDS
ID_BB_COMPANY
LONG_COMP_NAME
CNTRY_OF_RISK
IS_ULT_PARENT
END-OF-FIELDS

TIMESTARTED=Mon May  18 13:20:12 EST 2009
START-OF-DATA
100801|0|4|100801|International Business Machines Corp|US|Y|
END-OF-DATA
TIMEFINISHED=Mon May  18 13:20:12 EST 2009
DATARECORDS=1
END-OF-FILE
```

Sample Request File for the getcompany Program using Field Set Macro (using Security)

```
START-OF-FILE
FIRMNAME=firmabc
REPLYFILENAME=getcompany_fld_macro.out
CREDITRISK=yes
PROGRAMNAME=getcompany

START-OF-FIELDS
FIELDSET=BO_CREDIT_RISK_COMPANY|20090518|
END-OF-FIELDS

START-OF-DATA
IBM US Equity
END-OF-DATA
END-OF-FILE
```

Sample Reply File for the getcompany Program using Field Set Macro (security)

```
START-OF-FILE
RUNDATE=20090518
PROGRAMFLAG=oneshot
FIRMNAME=firmabc
REPLYFILENAME=getcompany_fld_macro.out
CREDITRISK=yes
SECID=BB_COMPANY
PROGRAMNAME=getcompany

START-OF-FIELDS
##+ FIELDSET=BO_CREDIT_RISK_COMPANY|20071106
ID_BB_COMPANY
LONG_COMP_NAME
ID_BB_PARENT_CO
LONG_PARENT_COMP_NAME
INDUSTRY_SECTOR
INDUSTRY_GROUP
INDUSTRY_SUBGROUP
CNTRY_OF_DOMICILE
CNTRY_OF_INCORPORATION
CNTRY_OF_RISK
STATE_OF_DOMICILE
STATE_OF_INCORPORATION
COMPANY_ADDRESS
IS_ULT_PARENT
OBLIG_INDUSTRY_SUBGROUP
ACQUIRED_BY_PARENT
COMPANY_TO_PARENT_RELATIONSHIP
ISSUER_NAME_TYPES
ID_BB_ULTIMATE_PARENT_CO
LONG_ULT_PARENT_COMP_NAME
COMPANY_CORP_TICKER
##- FIELDSET=BO_CREDIT_RISK_COMPANY|20071106
END-OF-FIELDS
```

```
TIMESTARTED=Mon May  18 13:26:52 EST 2007
START-OF-DATA
IBM US Equity|0|21|100801|International Business Machines Corp| |
|Technology|Computers|Computers|US|US|US|NY|NY|;2;6;1;1;One New Orchard
Road;1; ;1;Armonk;1;NY;1;10504;1;United States;|Y|Computers|N|
|Company|100801|International Business Machines Corp|IBM|
END-OF-DATA
TIMEFINISHED=Mon May  18 13:26:52 EST 2007
DATARECORDS=1
END-OF-FILE
```

Getfundamentals

The Data License Per Security Fundamental Service offers a comprehensive solution for the delivery of company financial data.

Key Features

- Ability to request Original, Preliminary, Restated or Most Recent company financial data
- Request certain periods or all company financials historically
- Option to request adjusted or unadjusted fundamental data affected from stock splits, stock dividends, rights offerings (either rights or entitlements)
- View fundamental for different periodicities i.e. Annual, Semi-annual, Quarterly
- See data for the parent company or the consolidated company
- 20 years of historical fundamental data available
- Override the currency of the fundamental data

Applicable getfundamentals file header options

ADJUSTED	HEADER	SECDESLENGTH
COLUMNHEADER	LAUNCH	SECID
COMPRESS	LOGIN	SN
CONSOLIDATED	OUTPUTFORMAT	SYSTEM
CURRENCY	PERIODICITY	TIME
DATEFORMAT	PORTSECDES	USERNUMBER
DATERANGE	PROGRAMFLAG	VERSION
DELIMITER	PROGRAMNAME	WS
FILETYPE	PRP	YELLOWKEY
FILINGSTATUS	REPLYFILENAME	
FIRMNAME	REPORT	
	RUNDATE	

Security Level overrides

- The following header options are supported on security level
  CONSOLIDATED
  CURRENCY
  PERIODICITY
- Syntax forsecurity level overrides:
  <Identifier>|<Security Identifier>|<Start Dt>|<End Dt>|<Number of Overrides>|<Overriding Field1>|<Overriding Field2>|<Overriding Value1>|<Overriding Value2>|

Example fundamental data currency override:

JPM US Equity||1|CURRENCY|JPY|

Getfundamentals-specific field note:

- **FISCAL_YEAR_PERIOD** is *mandatory* in the START-OF-FIELDS and END-OF-FIELDS section. If this field is omitted, the file will fail to process.
- Requests may only be made by using identifiers that refer to Equity securities. The correct ticker and exchange code where fundamentals are stored is returned via the data field **EQY_FUND_TICKER**.

The following **return codes** are currently defined:

0	Good return. No errors occurred.
10	Bloomberg cannot find the security as specified.
11	Restricted Security. Must link to a BLOOMBERG PROFESSIONAL™ terminal with access.
300	no fundamental data was found for the requested security for the given date range, filing status etc.
988	System Error on security level
989	Unrecognized pricing source
990	System Error (Contact Technical Support)
991	Invalid override value (e.g., bad date or number)
992	Unknown override field
993	Maximum number of overrides (20) exceeded
994	Permission denied.
995	Maximum number of fields exceeded.
996	Buffer Overflow (some data for this security is missing).
997	General override error (e.g., formatting error)
998	Security identifier type (e.g., CUSIP) is not recognized.
999	Unloadable security

Sample Request File for the Getfundamentals Program (using TICKER)

```
START-OF-FILE
FIRMNAME=firmabc
FILETYPE=pc
REPLYFILENAME=getfundamentals1.out
DATERANGE=20070101|20090630
PERIODICITY=q
SECID=TICKER
PROGRAMNAME=getfundamentals

START-OF-FIELDS
FISCAL_YEAR_PERIOD
IS_EPS
SALES_REV_TURN
EBITDA
END-OF-FIELDS

START-OF-DATA
IBM US Equity
END-OF-DATA
END-OF-FILE
```

Sample Reply File for the Getfundamentals Program (using TICKER)

```
START-OF-FILE
RUNDATE=20091124
PROGRAMFLAG=oneshot
FIRMNAME=firmabc
FILETYPE=pc
REPLYFILENAME=getfundamentals1.out
DATERANGE=20070101|20090630
PERIODICITY=q
SECID=TICKER
PROGRAMNAME=getfundamentals

START-OF-FIELDS
FISCAL_YEAR_PERIOD
IS_EPS
SALES_REV_TURN
EBITDA
END-OF-FIELDS

TIMESTARTED=Sat Nov 7 00:38:22 EST 2009
START-OF-DATA
IBM US Equity|0|4|2009 Q2|2.340|23251.000|5275.000|
IBM US Equity|0|4|2009 Q1|1.710|21711.000|3915.000|
IBM US Equity|0|4|2008 Q4|3.310|27006.000|6897.000|
IBM US Equity|0|4|2008 Q3|2.090|25301.000|5113.000|
IBM US Equity|0|4|2008 Q2|2.020|26821.000|5055.000|
IBM US Equity|0|4|2008 Q1|1.680|24502.000|4324.000|
IBM US Equity|0|4|2007 Q4|2.850|28866.000|6704.000|
IBM US Equity|0|4|2007 Q3|1.720|24119.000|4448.000|
IBM US Equity|0|4|2007 Q2|1.570|23772.000|4057.000|
IBM US Equity|0|4|2007 Q1|1.230|22029.000|3508.000|
END-OF-DATA
TIMEFINISHED=Sat Nov 7 00:38:23 EST 2009
DATARECORDS=10
END-OF-FILE
```

Getsnap

Data License Per Security Snap Shot offers a service to satisfy existing Data License Per Security clients who need a price returned with higher precision at a specified time or valuation point. This service supports Equities, Fixed Income securities and all other asset classes which generates tick data from tickerplant. The Snapshot service also supports reference data requests (in Security Master Category) in addition to pricing data.
The getsnap program returns requested data items on a given list of securities, with a standard limit of 20,000 securities per request. Data items fall in either two categories: **Ticker plant** related fields or **Security Master.** One record is returned per security identifier based on the Snapshot time selected. The fields are pipe-delimited and of variable width.

Getsnap specific program requirements:

Request files must be submitted at least 15 minutes prior to the selected snap time. Snaps can only be requested every half hour. Clients will receive a response file (.resp) to confirm that all requested security identifiers are valid. The response file will include the ID_BB_UNIQUE and ID_BB_GLOBAL for each security.

Getsnap specific header options:

SNAPTIME=
This header specifies the time the snap should be executed. The format should be hh:00 or hh:30

DELAY_LIMIT=
This header allows additional controls to be imposed on a request file containing securities with mixed embargo times. This header allows the user to control the output file preventing a security with a long embargo period from restricting the return of the output. For example, DELAY_LIMIT=30 will return the file within 30 minutes and ignore any embargos greater than 30 minutes. In these cases, N.A. would be returned instead of a price.

Getsnap specific Fieldset

The following fieldset will be returned by default when using PROGRAMNAME=getsnap.

SECURITIES|ERROR CODE|NUM FLDS|OPEN PRICE|HIGH PRICE|LOW PRICE|BID PRICE|MID PRICE|ASK PRICE|BID YIELD|MID YIELD|ASK YIELD|LAST PRICE|LAST YIELD|LAST UPDATE TIME|PREVIOUS CLOSE PRICE|PREVIOUS CLOSE DATE|PRICING SOURCE|

Users may append this information with any Security Master field by adding them to the field section of request. For example SETTLE_DT could be added in the following manner:

START-OF-FIELDS

SETTLE_DT
END-OF-FIELDS

Applicable getsnap file header options

COLUMNHEADER	OUTPUTFORMAT	SN
COMPRESS	PORTSECDES	SNAPTIME
DATEFORMAT	PRICING_SOURCE	SPECIALCHAR
DELAY_LIMIT	PROGRAMFLAG	USERNUMBER
DELIMITER	PROGRAMNAME	VERSION
EXCLUSIVE_PRICING_SRC	REPLYFILENAME	WS
FILETYPE	REPORT	YELLOWKEY
FIRMNAME	RUNDATE	
HEADER	SECDESLENGTH	
LOGIN	SECID	

The following **return codes** are currently supported:

0 Good return. No errors occurred.
10 Bloomberg cannot find the security as specified.
11 Restricted Security. Must link to BLOOMBERG PROFESSIONAL™ with access.
100 Maximum number of securities exceeded (20,000)
150 Security blocked due to embargo not being met
988 System Error on security level
989 Unrecognized pricing source
990 System Error (Contact Technical Support)
991 Invalid override value (e.g., bad date or number)
992 Unknown override field
993 Maximum number of overrides (20) exceeded
994 Permission denied.
995 Maximum number of fields exceeded.
996 Buffer Overflow (some data for this security is missing).
997 General override error (e.g., formatting error)
998 Security identifier type (e.g., CUSIP) is not recognized.
999 Unloadable security

Sample Request File for the Getsnap Program

```
START-OF-FILE
FIRMNAME=dlxxxxx
FILETYPE=pc
REPLYFILENAME=testgetsnap
SNAPTIME=0900
DELAY_LIMIT=3
COLUMNHEADER=yes
PROGRAMNAME=getsnap
START-OF-FIELDS
```

```
MARKET_SECTOR_DES
END-OF-FIELDS

START-OF-DATA
BMW GY Equity
IBM US Equity
AHA LN 03/18/11 C2600 Equity
GB0033280339|ISIN|
CH0114507210 Corp
EQ0017443700001000|BB_UNIQUE|

END-OF-DATA
END-OF-FILE
```

Sample Response File for the Getsnap Program

```
START-OF-FILE
REQUESTFILENAME=testgetsnap.req
PROGRAMFLAG=oneshot
FIRMNAME=dlxxxxx
FILETYPE=pc
REPLYFILENAME=testgetsnap
SNAPTIME=0900
DELAY_LIMIT=3
COLUMNHEADER=yes
PROGRAMNAME=getsnap

START-OF-FIELDS
ID_BB_UNIQUE
ID_BB_GLOBAL
END-OF-FIELDS

TIMESTARTED=Fri Mar 11 08:05:19 EST 2011
START-OF-DATA
BMW GY Equity|0|2|EQ0011568200001000|BBG000BBXB74|
IBM US Equity|0|2|EQ0010080100001000|BBG000BLNNH6|
AHA LN 03/18/11 C2600 Equity|0|2|EO83398320110302C5000006|BBG0013H59L8|
GB0033280339|0|2|COED1530945|BBG000087FV6|
CH0114507210 Corp|0|2|COEI2953269|BBG0000X9L82|
EQ0017443700001000|0|2|EQ0017443700001000|BBG000D1WPZ3|
END-OF-DATA
TIMEFINISHED=Fri Mar 11 08:05:19 EST 2011
END-OF-FILE
```

Sample Reply File for the Getsnap Program

```
START-OF-FILE
RUNDATE=20110311
PROGRAMFLAG=oneshot
FIRMNAME=dlxxxxx
FILETYPE=pc
REPLYFILENAME=testgetsnap
SNAPTIME=0900
DELAY_LIMIT=3
COLUMNHEADER=yes
PROGRAMNAME=getsnap
START-OF-FIELDS
MARKET_SECTOR_DES
END-OF-FIELDS
```

```
TIMESTARTED=Fri Mar 11 09:00:00 EST 2011
START-OF-DATA
SECURITIES|ERROR CODE|NUM FLDS|OPEN PRICE|HIGH PRICE|LOW PRICE|BID
PRICE|MID PRICE|ASK PRICE|BID YIELD|MID YIELD|ASK YIELD|LAST PRICE|LAST
YIELD|LAST UPDATE TIME|PREVIOUS CLOSE PRICE|PREVIOUS CLOSE DATE|PRICING
SOURCE|MARKET_SECTOR_DES|
BMW GY Equity|150|16| | | | | | | | | | | | | | |Equity|
IBM US
Equity|0|16|164.640000|164.670000|161.380000|162.030000|162.025000|162.
020000| | | |162.020000| |03/10/2011|162.020000|03/10/2011|US|Equity|
AHA LN 03/18/11 C2600 Equity|0|16| | |
|519.500000|534.000000|548.500000| | | |513.500000|
|03/10/2011|513.500000|03/10/2011|LN|Equity|
GB0033280339|0|16|109.962500|110.230000|109.962500|110.155000|110.16500
0|110.175000|2.349000|2.346800|2.344500|110.165000|2.346800|08:58:58|10
9.840000|03/10/2011|BGN|Govt|
CH0114507210
Corp|0|16|100.439000|100.780000|100.439000|100.446000|100.648000|100.85
1000|2.159000|2.119000|2.078000|100.648000|2.119000|08:58:53|100.597000
|03/10/2011|BGN|Corp|
EQ0017443700001000|0|16|212.000000|215.000000|208.250000|211.700000|211
.500000|211.300000| | | |211.300000|
|06:06:18|211.300000|03/11/2011|IN|Equity|


END-OF-DATA
TIMEFINISHED=Fri Mar 11 09:00:10 EST 2011
END-OF-FILE
```

Cross Referencing

Cross Reference Data - Lookup Values

Lookup fields are used to determine the possible return values for a specific field. For example, a request file containing the field LU_EQY_PRIM_EXCH would return the available values for the field EQY_PRIM_EXCH (Primary Exchange) - UQ, CT, JQ, etc. Please see Appendix D for more details about accessing Lookup values.

List of Fields

Data Dictionary (Fields.csv)

BLOOMBERG Data License provides all clients with the file **fields.csv**. This comma-delimited ASCII file is a comprehensive list of all fields available via Data License. Clients are advised that only fields delivered in fields.csv are supported. Data License does not support any other fields and they are subject to change without notice; thus, clients are advised to request data using the fields specified in this data dictionary. Information provided within this file includes the BLOOMBERG Data License Mnemonic, the Field ID, and a brief description and definition of each field. All Data License fields are assigned a Data License Category.

The table contains 22 columns as described below:

Field ID: The Bloomberg 5 character code unique to each mnemonic.

Field Mnemonic: The Bloomberg Data License Mnemonic.

Description: A short description of each mnemonic.

Data License Category: There are currently eight Data License categories:

- Security Master
- Derived Data
- End of Day Pricing
- Historical Time Series
- Estimates
- Quote Composite
- Historical Quote Composite
- Credit Risk

Category: A general classification of the mnemonic within the Data License Category.

Definition: A definition of the mnemonic.

Comdty, Equity, Muni, Pfd, M-Mkt, Govt, Corp, Index, Curncy, Mtge - Indicates all applicable market sectors for each mnemonic.

Standard Width: The standard width of the return value.

Standard Decimal Places: The standard number of decimal places of the return value (if applicable).

Field Type: Indicates the data type. Possible field return types are

- Character
- Real
- Integer
- Price
- Bulk
- Data
- Currency
- Boolean
- Date or Time
- Month/Year

Back Office: Indicates if the field mnemonic is part of the Back Office Product.

Extended Back Office: Indicates if the field mnemonic is part of the Extended Back Office Product.

Production Date: Indicates the date that the field was placed in production.

Current Maximum Width: The maximum width of the return value.

BVAL: when the data returns in the field is BVAL pricing or derived from BVAL pricing, clients are charged BVAL rates as opposed to standard rates.

BVAL Blocked: the field is not available when BVAL is delivered as the pricing source. If BVAL pricing is returned, these fields will return N.D. If another source is returned, the field works as normal.

New data fields are continually added to the Data License product. **fields.csv** is updated every Monday; it is suggested that clients download the most recent version of the file from their FTP folder each Monday to ensure that they have a complete list of all available data fields. The file is processed daily except Saturdays.

Bloomberg Identifiers

ID_BB_GLOBAL – The Bloomberg Global ID can be used as a key field to link or join securities across files. It is a 12 digit alpha-numeric, randomly generated identifier for every security on Bloomberg.

- The BBGID is allocated once the security is added to the system.
- The BBGID is never reused and remains with the security (in perpetuity).
- The BBGID does not change as a result of any corporate action.
- The BBGID will be stored in field ID135 (ID_BB_GLOBAL). In addition for Equity securities (excluding Equity Options), the Composite/Security Level BBGID will be stored in field ID145 (COMPOSITE_ID_BB_GLOBAL).

For more information regarding the BBGID, please refer to id_alloc.doc available in the Notice directory of client FTP servers and on DLSD<GO> on Bloomberg Professional Terminals.

ID_BB_UNIQUE – The Bloomberg Unique ID can be used as a key field to link or join securities across files. It is a unique identifier for every security and will never be re-used. It is an automatically generated number for Fixed Income, Index, Currency, Municipal, Equity and Mortgage securities. An exception to this is Equity Options. The Unique ID is derived from other security-level data for Equity Options.

- ID_BB_UNIQUE is unique to a specific security and not the company. If there is more than one ticker for a company within a country, each will have its own ID_BB_UNIQUE. If there is more than one country listing, each will have its own ID_BB_UNIQUE.
- ID_BB_UNIQUE should be used to track a change to a security's Cusip identifier, since such an action occurs often, especially for Collateralized Mortgage Obligations.
- The combination of ID_BB_UNIQUE and ID_BB_COMPANY should be used to identify an individual security for Mortgages, Munis, and Indices.

ID_BB_COMPANY – The Bloomberg Company ID can be used to link or join securities of the same company across files. The combination of ID_BB_COMPANY and ID_BB_SECURITY identifies an individual security for Munis, Equities, Corporates, Governments and Preferreds. The combination of ID_BB_COMPANY and ID_BB_UNIQUE identifies an individual security for Mortgages and Indices.

ID_BB_SECURITY – The Bloomberg Security ID should be used in combination with ID_BB_COMPANY in order to distinguish between securities of the same company for Munis, Equities, Corporates, Governments and Preferreds. ID_BB_SECURITY is a randomly assigned number.

By using these identifiers, the user is able to link all securities with the same issuer or company name whether it is an equity or debt instrument.

bsym.bloomberg.com

Bloomberg is making their robust identifiers, BSYMs (originally developed for the BLOOMBERG PROFESSIONAL service and Bloomberg's enterprise data products) available through Bloomberg's website at no charge to users, with no material impediments on use. Users would be able to use the identifiers for a variety of uses including trading, research, and mapping. Bloomberg will continue to update, build, and administer its identifiers to ensure they continue to serve as effective symbols for the broad uses required in today's financial markets.

This site can be used to locate tickers/identifiers that can be utilized in a Data License request.

Product Support and Technical Assistance

Please ask for Data License Technical Support when calling the below numbers.

North America

Support Type	Contact Information
Connection/FTP, File Processing, Software, Encryption	1-212-318-2000
Data Content	**Web-based support (see section below)**

Europe, Africa, Middle East

Support Type	Contact Information
Connection/FTP, File Processing, Software, Encryption	+44-20-7330-7500
Data Content	**Web-based support (see section below)**

Mexico, Central & South America

Support Type	Contact Information
Connection/FTP, File Processing, Software, Encryption	+52-55-5242-9200
Data Content	**Web-based support (see section below)**

Australia

Support Type	Contact Information
Connection/FTP, File Processing, Software, Encryption	+61-2-9777-8600
Data Content	**Web-based support (see section below)**

Japan

Support Type	Contact Information
Connection/FTP, File Processing, Software, Encryption	+81-3-3201-8900
Data Content	**Web-based support (see section below)**

Singapore

Support Type	Contact Information
Connection/FTP, File Processing, Software, Encryption	+65-6212-1000
Data Content	**Web-based support (see section below)**

Hong Kong

Support Type	Contact Information
Connection/FTP, File Processing, Software, Encryption	+852-2977-6000
Data Content	**Web-based support (see section below)**

Data Support

Clients can contact Data License Customer Support by utilizing our web-based customer service model. **The group that is dedicated to monitoring queries submitted in this manner handles all questions and/or concerns regarding data content only. Questions of a technical nature need to be addressed directly by the above support desks**.

Below are the steps clients will need to take in order to access our Support team as part of this customer service model.

1. The first step is to create a login for your account. This can be done at: http://www.bloomberg.com/datasolutions
   On this page, click on "Request an additional account"

2. Next, enter the information on the Registration page. User name can be any name of your choice. You must provide a valid Data License account number and/or BVAL account number. (Please note: Bloomberg Login and CUST# are not needed).

3. Once your login request has been approved, you will receive an email providing your username and temporary password. Go to: http://www.bloomberg.com/datasolutions and login using this username/password combination. At this point, you will be prompted to create a new password and select an account verification question and answer in the event that you should happen to forget your password in the future.

4. Now you can submit questions. Once you log in, simply click on the "Post Query" tab, select your product and type in your question. You can choose a Topic and/or Language if you choose. You can also attach any files that may be necessary for the Support teams to review in order to effectively research your question(s). If you wish to have any of your colleagues subscribed to your inquiry, simply add their email address in the Subscribe E-mails box at the bottom of the page. Once completed, click on Submit and your inquiry will be sent to one of our Data Solution Customer Support representatives.

5. You can also view any unresolved and/or resolved queries that have been submitted by your account by clicking on the View Queries tab. You can click on the Summary of the question you would like to review. From here, you can view any correspondence between you and the Support team in the Notes section. To add additional comments, you can type in the **'Please add new note'** section. Note: Clients will receive an email any time a Support representative updates your question.

6. You can review resolved queries in the same manner – by clicking on the Summary of the desired query. If you would like to dispute the answer provided or would like further clarification, simply check the **'If you would like to dispute the ticket please check here'** box, add your note, then click Submit.

7. Click on the 'My Account' tab to view information pertaining to your login.

FTP

A file is available on the primary and backup FTP servers for seven (7) days after the initial request. Clients will need to maintain a backup if there is a need to store a file longer.

When a reply file is transferred from our backend server, a copy of it is kept, appended with the date it arrived. For example, a reply file named **prices.out** would be copied to **prices.out.20090501**, where 20090501 represents May 1, 2009. If the reply file **prices.out.20090501** already existed on the FTP server, due to a previous request on the same day, the new reply file would be copied to **prices.out.20090501.1**. If the ".1" version existed, the new reply file would be copied to **prices.out.20090501.2**, and so on. The most recent file would always be stored as **prices.out**.

The correct way to utilize Data License internet FTP servers is to pull the date-stamped file. Internet servers have a failure recovery round robin system that consists of multiple physical machines, pointed to by bfmrr.bloomberg.com. Clients who retrieve non-date-stamped output file run the risk of using a stale .out file. This will happen if the client drops a request file on machine1, drops connection, then reconnects to machine2; machine2 may have an older copy of the .out file with the same name.

Each FTP server has a backup server. In the event that the primary server is unavailable, requests can be placed on the backup server. All reply files are placed on the primary and backup servers so that output can be picked up on either server. Files are kept on the backup server and the primary server for seven days. The file backup mechanism is also used for reply files scheduled via FTP.

Please refer to Appendix B for the list of host addresses.

When Changes Are Made

Changes, Requests, and New Features

A. Enhancement Notices

Bloomberg will periodically need to change or update specific elements of the Data License product. Some examples of possible changes/updates include:

General Notices

- Adjustments or additions of exchange codes
- Adjustments or additions of corporate action fields
- Adjustments of field types (character, integer, etc.) and/or field widths
- Update of a field's definition
- Change in logic for an existing field
- Development updates (ex. new/updated products, files)
- Additional corporate action types for getactions program
- Additions to output files from getticks, getallticks, and gethistory requests

Enhancement notices are placed in the Notices folder/subdirectory located in the home directory.

- **These notices will be created as Microsoft Word documents; therefore, clients will need to be in BINARY MODE when retrieving them.**
- **Clients should check for and receive these notices daily.**
- **These notices are IMPORTANT! They may require minor programming changes. Please review them carefully in order to prevent production errors.**

For clients with the Bloomberg PROFESSIONAL™ Service, enhancement notices and client software/applications can be downloaded via DLSD<GO>.

Each notice will contain the following standard information:

- Enhancement notice date
- Short description of the enhancement
- Effective date, if known
- An indication as to whether the notice applies to Per Security and/or Back Office Clients

In addition, these notices will provide a detailed explanation as to what changes will be taking place, and how they should be handled.

Naming Convention for Notices Directory Files

Enhancement and alert notices in the FTP notices subdirectories are currently provided in the following naming scheme:

alert_<date in YYYYMMDD format>.doc
enhance_<date in YYYYMMDD format>.doc
jp_alert_<date in YYYYMMDD format>.doc
jp_enhance_<date in YYYYMMDD format>.doc

Because Back Office and Per Security information are frequently sent in separate notices, the following naming conventions will be introduced to assist clients in identifying whether a notice involves their product:

BACK OFFICE ONLY NOTICES
alert_bo_<date in YYYYMMDD format>.doc
enhance_bo_ <date in YYYYMMDD format>.doc
jp_alert_bo_<date in YYYYMMDD format>.doc
jp_enhance_bo_ <date in YYYYMMDD format>.doc

PER SECURITY ONLY NOTICES
alert_ps_<date in YYYYMMDD format>.doc
enhance_ps_ <date in YYYYMMDD format>.doc
jp_alert_ps_<date in YYYYMMDD format>.doc
jp_enhance_ps_ <date in YYYYMMDD format>.doc

BOTH BACK OFFICE AND PER SECURITY RELATED NOTICE
alert_all_<date in YYYYMMDD format>.doc
enhance_all_ <date in YYYYMMDD format>.doc
jp_alert_all_<date in YYYYMMDD format>.doc
jp_enhance_all_ <date in YYYYMMDD format>.doc

If more than one notice is distributed in a single day, we will append _1 to the subsequent notice. For example: alert_all_<date in YYYYMMDD format>_1.doc

NOTE: At the end of a calendar year, all enhancement notices for that year will be placed in documents called enh*yyyy*.doc (English) and enh*yyyy*j.doc (Japanese) and sent to FTP Notices directions and the DLSD <go> function. For example, the notices from 2004 are available as enh2004.doc and enh2004j.doc

We can also send notices via email. Users must contact the Data License Support team via the web portal in order to be added to that distribution list.

In order to receive alert notices, DLDL/Sendfile clients must be on our email distribution list, since alert notices are not available on the DLSD<go> function.

B. File Layout Changes

The fields.csv file is subject to change, as new fields are created and added to the file, definitions are updated, etc. Corporate actions are also subject to change; in the event that new actions are introduced or field elements are added to existing actions, clients will be notified via enhancement notice.

C. Field Data Type and Value Changes

The data/value of an existing data field may be changed if a correction in logic is required. If this is not the case, a new field will be created. An announcement will not be made for mnemonic changes.

D. Version Control

The Data License FTP Client and Request Builder products have been merged into one application; this requires the user to log in only once to use both products. The current version of the software is 5.0. Version numbers are periodically updated, and the new version will replace the old version when posted to the FTP Notices directory or the **DLSD <go>** function on the Bloomberg terminal.

Appendices

APPENDIX A. Copyright for Encryption Software

Copyright (C) 1995-1997 Eric Young (eay@mincom.oz.au)
All rights reserved.

The encryption package is a DES implementation written by Eric Young (eay@mincom.oz.au).
The implementation was written so as to conform to MIT's libdes.

This library is free for commercial and non-commercial use as long as the following conditions are adhered to. The following conditions apply to all code found in the distribution.

Copyright remains Eric Young's, and as such any Copyright notices in the code are not to be removed.
If this package is used in a product, Eric Young should be given attribution as the author of that the SSL library. This can be in the form of a textual message at program startup or in documentation (online or textual) provided with the package.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgment: This product includes software developed by Eric Young (eay@mincom.oz.au).

THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION). HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The license and distribution terms for any publicly available version or derivative of this code cannot be changed. i.e. this code cannot simply be copied and put under another distribution license (including the GNU Public License).

APPENDIX B. IP Addresses

Dedicated line FTP Connections:

North American/Tokyo:
ftp2ny 160.43.94.20
ftp2nj 160.43.166.57

London:
lftpny 160.43.94.24
lftpnj 160.43.166.58

Internet FTP Connection:

All Regions:
BFMRR:
Host Name: bfmrr.bloomberg.com

Clients are advised to use **bfmrr.bloomberg.com** for all interaction with Bloomberg internet servers. This is a round robin DNS that alternates between two servers. In the event that one of these two machines becomes unavailable, bfmrr.bloomberg.com will point only to the live machine.

APPENDIX C. Sample Files for Customizing Output Format

Request file

START-OF-FILE
SYSTEM=DATA
LOGIN=JOEBLOW
USERNUMBER=111111
REPLYFILENAME=Sample1.txt
PROGRAMNAME=getdata
PROGRAMFLAG =oneshot
SECMASTER=yes
SN=765432
WS=0
LAUNCH=YES
OUTPUTFORMAT=variable
SECDESLENGTH=14

START-OF-FIELDS
NAME
NAME|16
PX_LAST
PX_LAST|14
PX_LAST|14|4
PX_LAST|14|4|c
PX_LAST||8
PX_LAST|||c
END-OF-FIELDS

START-OF-DATA
IBM US Equity||
END-OF-DATA

END-OF-FILE

Output file

START-OF-FILE
SYSTEM=DATA
LOGIN=JOEBLOW
USERNUMBER=111111
REPLYFILENAME=Sample1.txt
PROGRAMNAME=getdata
PROGRAMFLAG =oneshot
SECMASTER=yes
SN=765432
WS=0
LAUNCH=YES
OUTPUTFORMAT=variable
SECDESLENGTH=14

START-OF-FIELDS
NAME
NAME|16
PX_LAST
PX_LAST|14
PX_LAST|14|4
PX_LAST|14|4|c
PX_LAST||8
PX_LAST|||c
END-OF-FIELDS

TIMESTARTED=Tue May 19 10:42:10 EDT 2009
START-OF-DATA
IBM US Equity |0|8|INTL BUSINESS MACHINES CORP|INTL BUSINESS MA|105.230000|105.230000 |105.2300 |4 1052300|105.23000000|- 110|
END-OF-DATA
TIMEFINISHED=Tue May 19 10:42:12 EDT 2009
END-OF-FILE

Request file

```
START-OF-FILE
SYSTEM=DATA
LOGIN=JOEBLOW
USERNUMBER=111111
REPLYFILENAME=Sample2.txt
PROGRAMNAME=getdata
PROGRAMFLAG =oneshot
SECMASTER=yes
SN=765432
WS=0
LAUNCH=YES
OUTPUTFORMAT=variable
SECDESLENGTH=14
DELIMITER=;

START-OF-FIELDS
NAME
NAME|16
PX_LAST
PX_LAST|14
PX_LAST|14|4|c
PX_LAST||8
PX_LAST|||c
END-OF-FIELDS

START-OF-DATA
IBM US Equity||
END-OF-DATA

END-OF-FILE
```

Output file

```
START-OF-FILE
SYSTEM=DATA
LOGIN=JOEBLOW
USERNUMBER=111111
REPLYFILENAME=Sample2.txt
PROGRAMNAME=getdata
PROGRAMFLAG =oneshot
SECMASTER=yes
SN=765432
WS=0
LAUNCH=YES
OUTPUTFORMAT=variable
SECDESLENGTH=14
DELIMITER=;

START-OF-FIELDS
NAME
NAME|16
PX_LAST
PX_LAST|14
PX_LAST|14|4|c
PX_LAST||8
PX_LAST|||c
END-OF-FIELDS

TIMESTARTED=Tue May 19 10:43:03 EDT 2009
START-OF-DATA
"IBM US Equity";0;8;"INTL BUSINESS MACHINES CORP";"INTL BUSINESS
";105.380000  ;105.380000    ;105.3800      ;"4      10538";105.38000000  ;"-        1";
END-OF-DATA
TIMEFINISHED=Tue May 19 10:43:05 EDT 2009
END-OF-FILE
```

Request file

```
START-OF-FILE
SYSTEM=DATA
LOGIN=JOEBLOW
USERNUMBER=111111
REPLYFILENAME=Sample3.txt
PROGRAMNAME=getdata
PROGRAMFLAG =oneshot
SECMASTER=yes
SN=765432
WS=0
LAUNCH=YES
OUTPUTFORMAT=fixed
SECDESLENGTH=12
DELIMITER=;

START-OF-FIELDS
NAME
NAME|16
PX_LAST
PX_LAST|14|4|c
PX_LAST||8
PX_LAST|||c
END-OF-FIELDS

START-OF-DATA
IBM US Equity||
END-OF-DATA

END-OF-FILE
```

Output file

```
START-OF-FILE
SYSTEM=DATA
LOGIN=JOEBLOW
USERNUMBER=111111
REPLYFILENAME=Sample3.txt
PROGRAMNAME=getdata
PROGRAMFLAG =oneshot
SECMASTER=yes
SN=765432
WS=0
LAUNCH=YES
OUTPUTFORMAT=fixed
SECDESLENGTH=12
DELIMITER=;

START-OF-FIELDS
NAME
NAME|16
PX_LAST
PX_LAST|14|4|c
PX_LAST||8
PX_LAST|||c
END-OF-FIELDS

TIMESTARTED=Tue May 19 10:51:32 EDT 2009
START-OF-DATA
IBM US Equity 0  8  INTL BUSINESS MACHINES CORP     INTL BUSINESS
MA105.320000          105.320000    105.3200     4      1053200105.32000000          -
110
END-OF-DATA
TIMEFINISHED=Tue May 19 10:51:34 EDT 2009
END-OF-FILE
```

APPENDIX D. Lookup Tables

Lookup tables are special fields that may be found in the Data Dictionary (fields.csv); please see Data Dictionary Section. All the Lookup tables begin with "LU_". These return all possible values for the fields that they are associated with, for the specified market sector (yellow key). For example, the following request file will return all possible values for SECURITY_TYP

```
START-OF-FILE
FIRMNAME=firmabc
REPLYFILENAME=sample.dat
PROGRAMNAME=getdata
PROGRAMFLAG=oneshot
SECMASTER=yes

START-OF-FIELDS
LU_SECURITY_TYP
END-OF-FIELDS

START-OF-DATA
IBM US Equity
END-OF-DATA
END-OF-FILE

The corresponding output would be:
START-OF-FILE
FIRMNAME=firmabc
REPLYFILENAME=sample.dat
PROGRAMNAME=getdata
PROGRAMFLAG=oneshot

START-OF-FIELDS
LU_SECURITY_TYP
END-OF-FIELDS

TIMESTARTED=Fri May    8  11:50:01  EDT 2009
START-OF-DATA
IBM US Equity|0|1| |;2;63;1;1;A/T Unit;1;ADR;1;Austrian
Crt;1;BDR;1;Basket WRT;1;Belgium Cert;1;Bond;1;CDR;1;Car
Forward;1;Closed-End Fund;1;Cmdt Fut WRT;1;Cmdt Idx WRT;1;Common
Stock;1;Conv Bond;1;Conv Prfd;1;Corp Bnd WRT;1;Currency WRT;1;Dutch
Cert;1;EDR;1;ETF;1;ETP;1;Equity OTC Option;1;Equity Option;1;Equity
WRT;1;FDIC;1;French Cert;1;Fund of Funds;1;GDR;1;German Cert;1;Hedge
Fund;1;I.R. Fut WRT;1;I.R. Swp WRT;1;IDR;1;Index WRT;1;Indx Fut
WRT;1;Int. Rt. WRT;1;Ltd Part;1;Misc.;1;Mutual Fund;1;NY Reg Shrs;1;OTC
Option;1;Open-End Fund;1;PRES;1;Preference;1;Preferred;1;Prfd
WRT;1;Private Comp;1;Private
Eqty;1;RDC;1;REIT;1;Receipt;1;Right;1;Royalty Trst;1;SINGLE STOCK
FUTURE;1;Sec Lending;1;Swiss Cert;1;Tracking Stk;1;UIT;1;Unit;1;Unit
Inv Tst;1;Variable Annuit;1;Variable Annuity;1;Warrant;|
END-OF-DATA
TIMEFINISHED=Fri May  8 11:51:11 EDT 2009
END-OF-FILE
```

There is also a file placed on client servers daily named lookup.out which contains all available lookup tables.

APPENDIX E. Bloomberg Special Fonts

It is possible that data retrieved from Bloomberg contains special fonts. All of the fonts are shown below:

BLOOMBERG Font

	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9	_A	_B	_C	_D	_E	_F
0_	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
1_	É	È	Ì	ô	ö	ò	û	ù	ÿ	Ö	Ü	á	í	ó	ú	ñ
2_		!	"	#	$	%	&	'	(	)	*	+	,	-	.	/
3_	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4_	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5_	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
6_	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7_	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	€
8_	1/64	1/32	3/64	1/16	5/64	3/32	7/64	1/8	9/64	5/32	11/64	3/16	13/64	7/32	15/64	1/4
9_	17/64	9/32	19/64	5/16	21/64	11/32	23/64	3/8	25/64	13/32	27/64	7/16	29/64	15/32	31/64	1/2
A_	33/64	17/32	35/64	9/16	37/64	19/32	39/64	5/8	41/64	21/32	43/64	11/16	45/64	23/32	47/64	3/4
B_	49/64	25/32	51/64	13/16	53/64	27/32	55/64	7/8	57/64	29/32	59/64	15/16	61/64	31/32	63/64	×
C_	0)	1)	2)	3)	4)	5)	6)	7)	8)	9)	0	1	2	3	4	5
D_	6	7	8	9	↑	↓	←	→	↗	↙	↖	↘	₄	₣	₹	₩
E_	£	¥	₧	Ò	Ù	±	≠	≈	≤	≥	Õ	Á	Í	₥	©	®
F_	Ô	✓	Ó	Ú	Â	Ê	õ	À	Ñ	¿	¡	«	»	ã	Ã	ß

Since many of these characters are not recognized as standard ASCII, a conversion is done so that all characters are in ASCII form. The table on the following page shows how the Bloomberg special characters are mapped except for those characters which have the same ASCII translation. Fractions are not shown in the next table but are handled in the following manner: <space><numerator>/<denominator>. The additional space was used to avoid potential confusion with numbers that may be immediately before the fraction.

Special Char	*ASCII Map*	*Special Char*	*ASCII Map*	*Special Char*	*ASCII Map*	*Special Char*	*ASCII Map*	*Special Char*	*ASCII Map*
Ç	C	É	E	€	=	Ò	O	Ú	U
ü	u	È	E	▯	X	Ù	U	Â	A
é	e	Ì	I	🡅	^	±	+/-	Ê	E
â	a	ô	o	🡇	v	≠	!=	õ	o
ä	a	ö	o	🡄	<-	≈	~	À	A
à	a	ò	o	🡆	->	≤	<=	Ñ	N
å	a	û	u	🡅	/>	≥	>=	¿	!?
ç	c	ù	u	🡇	</	Õ	O	¡	!!
Ê	e	ÿ	y	🡄	<\	Á	A	«	<<
Ë	e	Ö	O	🡆	\>	Í	I	»	>>
È	e	Ü	U	$^{W}_{I}$	WI	™	TM	ã	a
Ï	i	á	a	$^{P}_{F}$	PF	©	C	Ã	A
Î	i	í	i	$^{R}_{T}$	RT	®	R	ß	B
Ì	i	ó	o	$^{W}_{R}$	WR	Ô	O		
Ä	A	ú	u	£	GBP	√	V		
Å	A	ñ	n	¥	Yen	Ó	O		

APPENDIX F. Timezone reference numbers

Reference time zone numbers for optional header DATETIMERANGE

TZDF	Example Cities fro this zone	Time vs GMT
1	Eniwetok, Kajalein	GMT-12:00
2	Midway Is., Samoa	GMT-11:00
3	Hawaii	GMT-10:00
4	Alaska	GMT-09:00
5	Pacific Time (US & Canada); Tijuana	GMT-08:00
6	Mountain Time (US and Canada)	GMT-07:00
7	Arizona	GMT-07:00
8	Mexico City, Tegucigalpa	GMT-06:00
9	Central Time (US & Canada)	GMT-06:00
10	Saskatchewan	GMT-06:00
11	Indiana (East)	GMT-05:00
12	Bogota, Lima	GMT-05:00
13	Eastern Time (US & Canada)	GMT-05:00
14	Santiago	GMT-04:00
15	Caracas	GMT-04:30
16	Atlantic Time (Canada)	GMT-04:00
17	Newfoundland	GMT-03:30
18	Buenos Aires, Georgetown	GMT-03:00
19	Brasilia	GMT-03:00
20	Mid-Atlantic	GMT-02:00
21	Azores	GMT-01:00
22	London, Dublin, Edinburgh, Lisbon	GMT (DST)
23	Greenwich Mean Time - Prime Meridian Reykjavik	GMT
24	Berlin, Brussels, Vienna, Paris, Madrid, Rome, Amsterdam, Stockholm, Prague, Warsaw, Zurich	GMT+01:00
25	Athens, Helsinki, Istanbul	GMT+02:00
26	Eastern Europe	GMT+02:00
27	Harare, Pretoria	GMT+02:00
28	Israel	GMT+02:00
29	Cairo	GMT+02:00
30	Kuwait, Nairobi, Riyadh, Bahrain	GMT+03:00
31	Moscow,St.Petersburg,Kazan,Volgograd, Baghdad	GMT+03:00
32	Tehran	GMT+03:30
33	Abu Dhabi, Muscat, Dubai	GMT+04:00
34	Kabul	GMT+04:30
35	Islamabad, Karachi, Ekaterinburg, Tashkent	GMT+05:00
36	Mumbai,Kolkata,Chennai,New Delhi,Colombo	GMT+05:30
37	Dhaka	GMT+06:00
38	Almaty	GMT+06:00

39	Bangkok, Jakarta, Hanoi	GMT+07:00
40	Beijing, Chongqing, Urumqi	GMT+08:00
41	Hong Kong, Singapore, Taipei	GMT+08:00
42	Tokyo, Osaka, Sapporo, Seoul, Yakutsk	GMT+09:00
43	Adelaide	GMT+09:30
44	Darwin	GMT+09:30
45	Canberra, Melbourne, Sydney	GMT+10:00
46	Brisbane, Guam, Port Moresby	GMT+10:00
47	Hobart	GMT+10:00
48	Magadan, Solomon Is., New Caledonia	GMT+11:00
49	Kamchatka, Marshall Is.	GMT+12:00
50	Wellington, Auckland	GMT+12:00
51	Fiji	GMT+12:00

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