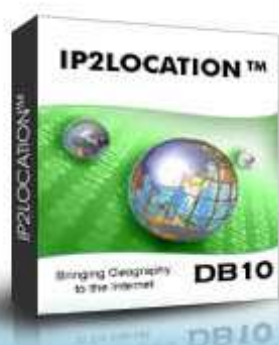


## IP2LOCATION™ IP-COUNTRY-REGION-CITY-LATITUDE- LONGITUDE-ZIPCODE-ISP-DOMAIN DATABASE

### DATA FILE SPECIFICATIONS

|                        |   |  |
|------------------------|---|--|
| Product:               | IP2Location™ IP-Country-Region-City-Latitude-Longitude-ZIPCode-ISP-Domain Database [DB10] |  |
| File Name:             | IP2Location_IP_Country_Region_City_Latitude_Latitude_ZIPCode_ISP_Domain_Specification.PDF |  |
| Total Records:         | 6,833,575   |  |
| Total Fields:          | 11  |  |
| Last Updated:          | April 2010  |  |
| Data Format Available: | i. CSV [ Comma-Delimited ASCII ]<br>ii. BIN [ IP2Location™ Binary Format ]                |  |

| FIELD # | FIELD NAME   | DATA TYPE          | FIELD DESCRIPTION  |
|---------|--------------|--------------------|--|
| 1       | IP_FROM      | NUMERICAL (DOUBLE) | Beginning of IP address range. The data is represented in IP number <sup>1</sup> format. |
| 2       | IP_TO        | NUMERICAL (DOUBLE) | Ending of IP address range. The data is represented in IP number <sup>1</sup> format.    |
| 3       | COUNTRY_CODE | CHAR(2)            | Two-character country code based on ISO 3166.  |
| 4       | COUNTRY_NAME | VARCHAR(64)        | Country name based on ISO 3166.  |
| 5       | REGION       | VARCHAR(128)       | Region name.   |
| 6       | CITY         | VARCHAR(128)       | City name.   |
| 7       | LATITUDE     | NUMERICAL (DOUBLE) | City latitude. Default to capital city latitude if city is unknown.                      |
| 8       | LONGITUDE    | NUMERICAL (DOUBLE) | City longitude. Default to capital city longitude if city is unknown.                    |
| 9       | ZIPCODE      | CHAR(10)           | ZIP codes for US and Canada cities only.   |
| 10      | ISP_NAME     | VARCHAR(256)       | Internet Service Provider registered under the IP address range.                         |
| 11      | DOMAIN_NAME  | VARCHAR(128)       | Domain name assigned to Internet network.  |



**Note:**

**<sup>1</sup> IP Address to IP Number Conversion**

If the IP address 161.132.13.1, then the IP number is 2709785857.

$$\begin{aligned} \text{IP Number, X} &= 161 \times (256 \times 256 \times 256) + 132 \times (256 \times 256) + 13 \times (256) + 1 \\ &= 2709785857 \end{aligned}$$

In general, this is the formula to convert an IP Address to IP Number.

Let assume the IP Address is A.B.C.D.

$$\text{IP Number, X} = A \times (256 \times 256 \times 256) + B \times (256 \times 256) + C \times 256 + D$$

**<sup>2</sup> Record Matching**

First, convert the search IP Address to IP Number, X. Search a record that matches the range condition. You will get only one match per query. The country, city and ISP information is attached to country fields of the record.

$$\text{IP\_FROM} \leq X \leq \text{IP\_TO}$$

