

## IP2LOCATION™ IP-COUNTRY-REGION-CITY-ISP DATABASE

### DATA FILE SPECIFICATIONS

Product:	IP2Location™ IP-Country-Region-City-ISP Database [DB4]	
File Name:	IP2Location_IP_Country_Region_City_ISP_Specification.PDF	
Total Records:	6,759,286	
Total Fields:	7	
Last Updated:	March 2010	
Data Format Available:	i. CSV [ Comma-Delimited ASCII ] 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	ISP_NAME	VARCHAR(256)	Internet Service Provider registered under the IP address range.

**Note:**

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

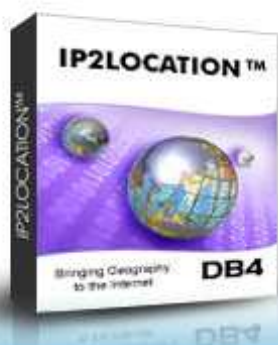
If the IP address 161.132.13.1, then the IP number is 2709785857.

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

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.

**IP\_FROM <= X <= IP\_TO**

