



InfoNow
CORPORATION

FindNow Database Update Procedure

June 17, 1996

INFONOW CORPORATION

FINDNOW DATABASE UPDATE PROCEDURE

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As of June 17, 1996

Prepared By Internet Products Group

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1. OBJECTIVE

This document defines the procedures by which InfoNow will update a FindNow client's database table. All database updates will be performed as a batch process on the 1st and 15th of each month. The process consists of four phases which have been defined as:

Phase I - Transfer of data from client to InfoNow's NOC (Network Operation Center).

Phase II - GEOCoding of update data.

Phase III - Updating client's primary database table on FindNow system.

Phase IV - Transfer of Rejection Reports from InfoNow's NOC to client.

For those updates that reflect a "group" change to a set of records that can be identified by a field value, the client can either provide the updates through the normal process defined in this document or can contact their account manager for a special update process.

1.1 EXAMPLE FINDNOW CLIENT PROFILE

To illustrate the process, examples are provided based upon the following FindNow client profile.

Client Company Name: Acme Corporation

Purpose for FindNow: Provide location information to Acme clients/prospects for the purchase and/or service of widgets.

Database Structure:

Field No.	Field Name	Data Type
1	Site_ID	A10
2	Site_Name	A15
3	Address_Line_1	A15
4	Address_Line_2	A15
5	City	A10
6	State	A2
7	Zipcode	N9
8	Phone_Number	N10
9	Fax_Number	N10
10	Hours_Open	N8
11	Service	A1

Date of Updates: 15th of Each Month

Internet Domain Name: acme.com

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Database Administrator: John Smith

DBA's E-Mail Address: jsmith@acme.com

FTP Site Name: ftp.acme.com

Encryption Method: None (Data considered to be "non-critical")

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2. PHASE I - DATA TRANSFER

2.1 DATA FORMAT

All data must be provided to InfoNow in a single ASCII (American Standard Code for Information Interchange) comma delimited file. The format must include a transaction field as the first field (Alphanumeric - 2 Bytes) of each record. There are four (4) types of values for the transaction field, which have been identified as:

Transaction Field Information	
Value	Description/Purpose
A1	Record to be added to the database table.
D1	Record to be deleted from the database table.
M1	Record contains modification to a record in the database table that reflects a change to it's geographic location and must be GEOCoded prior to being processed.
M2	Record contains modification to record in the database table that does not change it's geographic location.

Table 2-1 - Transaction Field Values

2.1.1 Minimum Information for Transaction Type

2.1.1.1 Additions

Table 2-2 represents the minimum information required to add a location (record) to the FindNow client's database table.

Field Name
Site/Unique_ID
Address_Line_1
Address_Line_2 (If Required)
City
State
Zipcode

Table 2-2 - Minimum Information Required for Addition to Database Table

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2.1.1.2 Deletions

Table 2-3 represents the minimum information required to delete a location (record) from the FindNow client's database table.

Field Name
Site/Unique_ID

Table 2-3 - Minimum Information Required for Deletion from Database Table

2.1.1.3 Modifications

Please note that any modifications to a records Site/Unique_ID field must be performed by deleting the existing record and then adding a new record.

2.1.1.3.1 Geographic

Table 2-4 represents the minimum information required to modify a location (record) to the FindNow client's database table, where the modification alters the geographic location of the record.

Field Name
Site/Unique_ID
Address_Line_1
Address_Line_2 (If Required)
City
State
Zipcode

Table 2-4 - Minimum Information Required for Geographic Modification to an Existing Record in Database Table

2.1.1.3.2 Non-Geographic

Table 2-5 represents the minimum information required to modify a location (record) to the FindNow client's database table, where the modification **does not** alter the geographic location of the location.

Field Name
Site/Unique_ID
<i>Modified Information</i>

Table 2-5 - Minimum Information Required for Non-Geographic Modification to an Existing Record in Database Table

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2.1.2 Example

Table 2-6 represents the update provided to InfoNow's NOC by the Acme Corporation. The file was transferred seven (7) business days prior to the 15th of the month.

Record No.	Content
1	M1,5600100346,,2101 N. Main St.,,San Jose,CA,95131,,,
2	D1,4513467001,,,,,,,,,
3	A1,8765342100,Widget's R US,123 Broadway,,Sonoma,CA,84231,,,Y
4	M2,4587900484,,,,,,,,,4155553476,,N
5	M1,8765344245,,560 First St.,,Denver,CO,85010,,,N

Table 2-6 - Acme Update Information

Table 2-7 represents the analysis of each record provided by the Acme Corporation.

Record No.	Content
1	Represents a modification to the current database table, where the geographic information was modified. In this case, the site moved to a new location.
2	Represents a deletion to the current database table for the record containing the Site_ID value of 4513467001.
3	Represents a new record added to the database table.
4	Represents a modification to the current database table, where the geographic information was not modified. In this case, the Fax number was changed, along with the Service identifier.
5	Represents a modification to the current database table, where both geographic and non-geographic information was provided.

Table 2-7 - Analysis of Acme Update Data

2.2 DATA TRANSFER METHOD

All data must be received by InfoNow on the 20th and/or 5th of each month to correspond with an batch processing occurring on the 1st and/or 15th of each month respectively. The data should be in a compressed format, using either PKZIP UNIX Tar and Compress (.Z), or UNIX Tar and GNU's GZIP (.GZ) compression techniques. The data file name is an six (6) byte long name and must represent the numeric value of the date the file was transferred (i.e. For a file transferred on June 24th, 1996, the file name would be 062496.

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The data file can be transferred to InfoNow by one of three (3) methods, which have been identified as:

- Method 1 - FTP (File Transfer Protocol) to InfoNow's FTP site (ftp.infonow.com).
- Method 2 - As an attachment to an electronic mail message.
- Method 3 - Hand delivered by carrier of choice.

In the case of methods number 1 and 2, it is assumed that the data does not require encryption to secure the information during the transfer of the data over the Internet. If encryption is required, InfoNow will work with each individual client to determine the security level and method of encryption.

2.2.1 Method 1 - FTP

This process assumes that the client has FTP capabilities to hosts on the Internet. Using a standard FTP application, the client will transfer the update data file to `ftp://ftp.infonow.com/incoming/company_name/` (*Company_Name* represents the client's corporate name (i.e. acme for the Acme Corporation)).

Please note that the incoming directory allows for data only to be written to and not read from by the general Internet public.

2.2.1.1 Example

John Smith (DBA) would FTP the update data file to `ftp://ftp.infonow.com/incoming/acme/`.

2.2.2 Method 2 - E-Mail Attachment

This process assumes that the client has Internet mail exchange capabilities. The message must be addressed to `dba@infonow.com`, and attached using one of the following encoding methods:

1. MIME (Preferred Method)
2. Uuencode
3. BinHex

2.2.2.1 Example

Using Eudora (Popular POP3 Mail Reader), `jsmith@acme.com` would attach the update file using a MIME encoding method and address the message to `dba@infonow.com`.

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2.2.3 Method 3 - Hand Delivered

The data must be placed on a DOS FAT formatted 3½" floppy diskette(s) and sent by the client's carrier of choice to the following address:

InfoNow Corporation
2107 N. First St.
Suite 360
San Jose, CA 95131
Attn: FindNow DBA

2.2.3.1 Example

John Smith would use a Federal Express envelope and address it for either over night or next day delivery to InfoNow's San Jose facilities.

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3. PHASE II - GEOCODING OF UPDATE DATA

Once InfoNow has received the data, we create a separate file containing all the A1 and M1 transaction data. The data is then processed to calculate the geographic coordinates (longitude and latitude) of the location (record). Once the GEOCoding process has been completed, the qualified GEOCoded data and the data remaining from the original update file is merged into a batch file for Phase III processing.

Please note that the data that could not be GEOCoded will be transferred back to the client in Phase IV of the operation.

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4. PHASE III - UPDATING PRIMARY DATABASE TABLE

During this phase, the client's database table is copied to tape prior to the batch processing taking place. Once the backup is completed the batch file created in Phase II is applied against the client's primary database table. Any rejects from this process are compiled on a report that is transferred to the client in Phase IV of the operation.

4.1 REJECTS

Rejects from the batch process are based upon the following criteria.

4.1.1 Additions

Table 4-1 represents the reject error codes for a record to be added to the client's database table.

Error Code	Description
A101	Duplicate Site/Unique_ID in database table
A102	Record already exists. Matching Site/Unique_ID, Site_Name, Address_Line_1, Address_Line_2, City, State, and Zipcode.
A103	GEOCoded information not available.

Table 4-1 - Addition Reject Error Codes

4.1.2 Deletions

Table 4-2 represents the reject error codes for a record to be deleted from the client's database table.

Error Code	Description
D101	Site/Unique_ID in database table does not exist.

Table 4-2 - Deletion Reject Error Codes

4.1.3 Modifications

Table 4-3 represents the reject error codes for a modification to be applied to the client's database table.

Error Code	Description
M001	Site/Unique_ID in database table does not exist.
M002	Field to be modified contains duplicate information.
M101	GEOCoded information not available.

Table 4-3 - Modification Reject Error Codes

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4.2 REJECT REPORT FORMAT

The reject report will contain the data from the transaction record, the error code and error description. The report will be formatted suitable for printing on an 8½" x 11" piece of paper in a landscape orientation.

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5. PHASE IV - TRANSFER OF REJECTION REPORT

Similar to the transfer of the update data file to InfoNow, both the Transaction Rejection Report and the GEOCoding Rejection Data can be transferred by one of three (3) ways, which are defined as:

Method 1 - FTP to the client's FTP site (*ftp.company_domain_name.com*).

Method 2 - As an attachment to an electronic mail message.

Method 3 - Hand delivered by carrier of choice.

In the case of methods number 1 and 2, it is assumed that the data does not require encryption to secure the information during the transfer of the data over the Internet. If encryption is required, InfoNow will work with each individual client to determine the level and method of encryption.

5.1.1 Method 1 - FTP

This process assumes that the client has a FTP host on the Internet. Using a standard FTP application, InfoNow's DBA will transfer the Transaction Rejection Report and the GEOCoding Rejection Data file to *ftp://ftp.company_domain_name.com/incoming/infonow/*

5.1.1.1 Example

InfoNow's DBA would FTP the rejection report files to *ftp://ftp.acme.com/incoming/infonow/*.

5.1.2 Method 2 - E-Mail Attachment

This process assumes that the client has Internet mail exchange capabilities. The message must be addressed to *client_dba@company_domain_name.com*, and attached using one of the following encoding methods:

1. MIME (Preferred Method)
2. Uuencode
3. BinHex

5.1.2.1 Example

Using Eudora (Popular POP3 Mail Reader), *dba@infonow.com* would attach the reject report files using a MIME encoding method and address the message to *jsmitch@acme.com*.

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5.1.3 Method 3 - Hand Delivered

The data would be placed on a DOS FAT formatted 3½" floppy diskette and sent by the client's carrier of choice to the following address:

Company_Name
Address_Line_1
Address_Line_2
City, State Zipcode
Attn: *Client_DBA*

5.1.3.1 Example

InfoNow's DBA would use a Federal Express envelope and address it for next day delivery to the Acme Corporation, attention John Smith.

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6. APPENDIX A - CLIENT INFORMATION WORKSHEET

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FINDNOW CLIENT WORKSHEET

Client Company Name: _____

Client Database Administrator Name: _____

Address of DBA: _____

E-Mail Address of DBA: _____

Client Domain Name: _____

Client FTP Host Name: _____

Dates for Update: - 1st of the Month • - 15th of the Month (Check all that apply.)

Method of Update File Transfer: - FTP • - E-Mail • - Hand Delivery (Select one.)

Encryption Required?: - No • - Yes - **Preferred Method:** _____

Preferred Compression Method: - PKZIP • - Unix Tar & Compress •
 - Unix Tar & GNU's GZIP

Method of Rejection Report File Transfer: - FTP • - E-Mail • - Hand Delivery

Encryption Required?: - No • - Yes

Preferred Compression Method: - PKZIP • - Unix Tar & Compress •
 - Unix Tar & GNU's GZIP

Authorized Client's Signature: _____