OfficeTalk Data Access Toolkit
Technical Documentation (Draft Version 1 - September 1996)

Installation Instructions

To Install the OfficeTalk Data Access Toolkit follow the steps below.

1. Run the 'setup.exe' program.

2. The welcome screen will be displayed, click on 'OK' to continue.
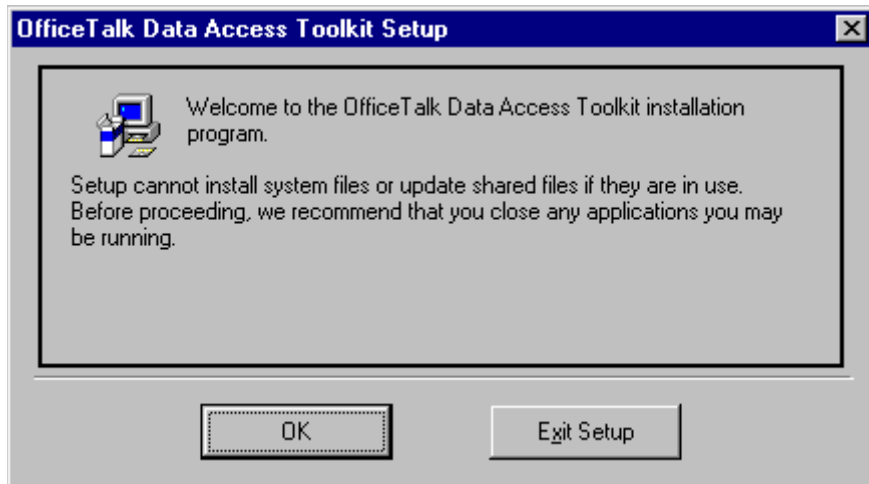
Welcome Screen

3. The install screen will now be displayed, to install to the default directory click on the install button otherwise choose a different location for the Toolkit by selecting 'Change Directory'.


Install Button

The OfficeTalk Data Access Toolkit will now be installed to the chosen path, and a program item will be created in the OfficeTalk group. To run the OfficeTalk Data Access Toolkit double click on the program item called 'OfficeTalk Data Access Toolkit'.

Troubleshooting

During the installation a dialog similar to the one below may be displayed. If this occurs, select 'Ignore'. In doing so, the Toolkit will merely make use the version of the relevant library file already resident on the machine rather than replacing it with its own version. The installation process will then continue.
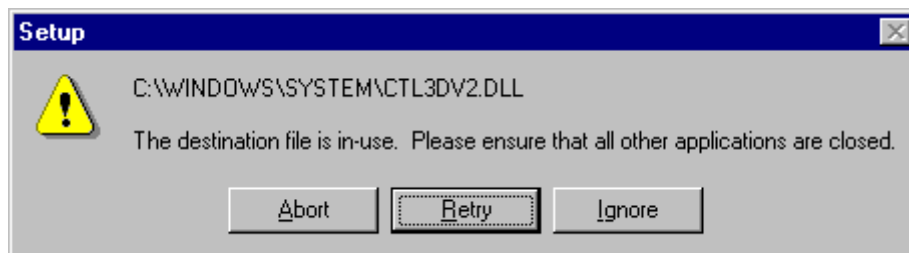

Installation Error Message

Using The Toolkit

The OfficeTalk Data Access Toolkit is a wizard-style application that will generate a set of Btrieve Data Definition Files (DDF) to facilitate access to the data stored within an OfficeTalk database from third party data reporting/manipulation tools and development environments.

This section describes each of the four steps of the wizard and what must be done to proceed to the next step.

Step 1

The first step of using the wizard is to enter the password which allows the program to create a complete set of DDF files. If the password is not provided, or is incorrect, the definitions produced will only allow access to the Diary Bookings and Task data for the OfficeTalk users. The password is available to purchasers of the Toolkit from Sareen Software Plc upon satisfaction of the criteria specified in criteria.doc. Regardless of whether the password entered is correct, select 'Next >' to move on to the next step.
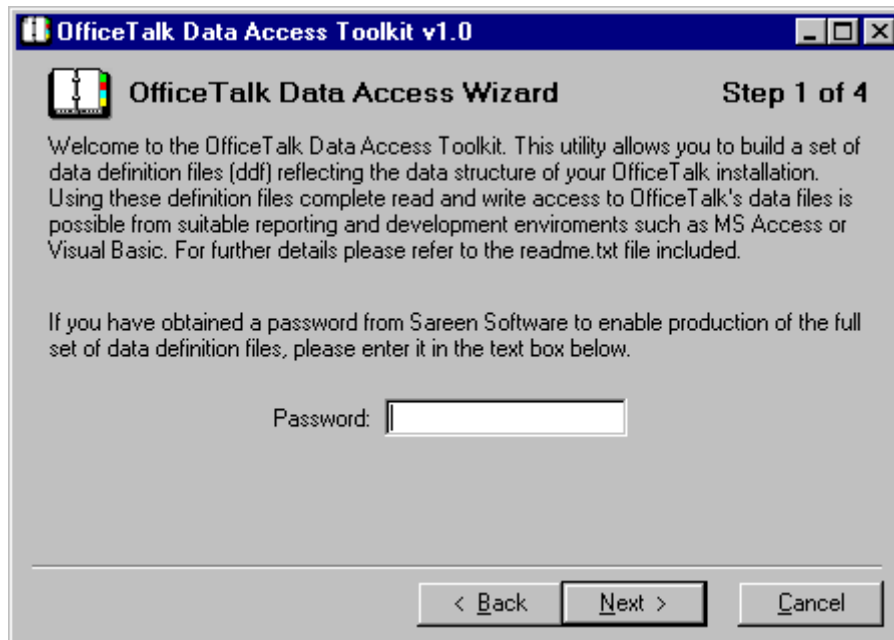
Password Entry Window

If you have not entered the password correctly, or left the password blank, the following message will be displayed. Click on 'OK' to proceed.
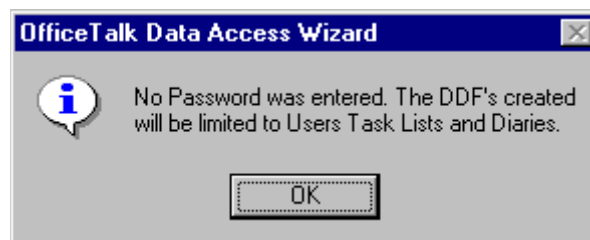
No Password Window

Step 2

The second step is to select which OfficeTalk database you wish to produce a set of DDF files for. The Toolkit can automatically extract the location of the default OfficeTalk database from the local otalk.ini file. To use a specific OfficeTalk database select the appropriate radio option button and enter the path to this database in the text box, or use the browse facility to locate it.
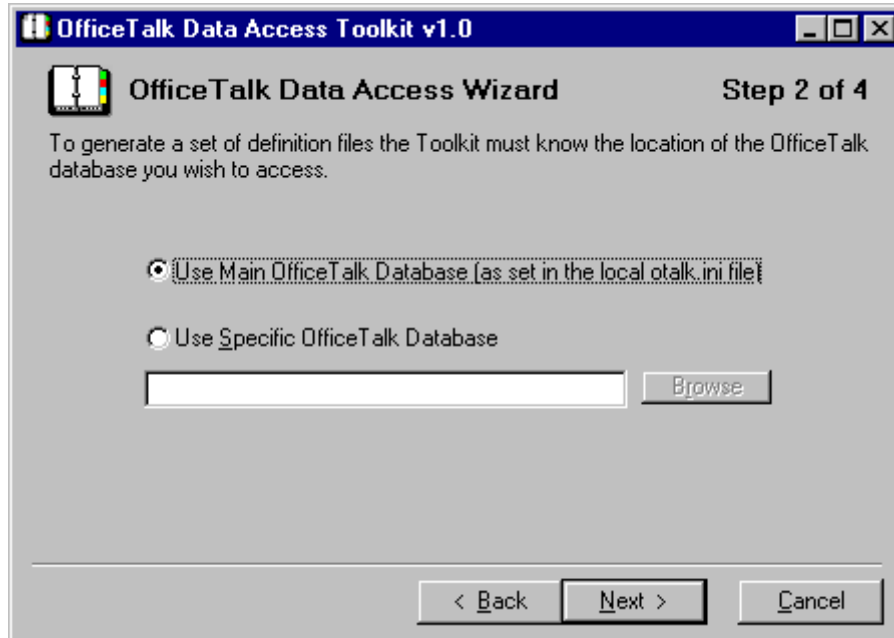
OfficeTalk Database Location Window

Step 3

Step 3 is to select the directory in which the new DDF files will be created. This can be done by typing the path of an existing directory into the text box, or using the browse facility. If a set of DDF files already exist in the specified directory they cannot be appended to, and must be overwritten. To do this, select the 'Overwrite any Existing DDF's' checkbox.
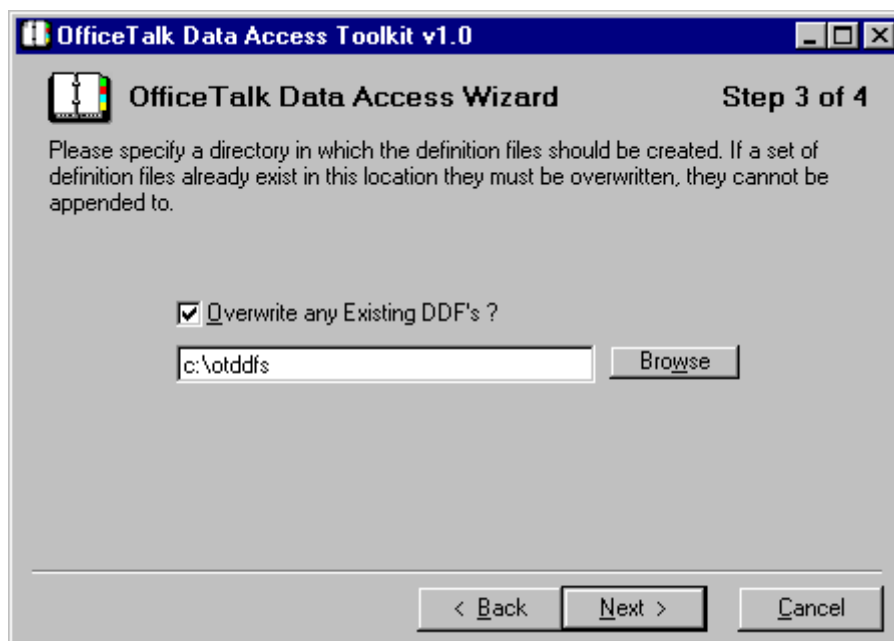
Step 4

The fourth step of using the wizard is to confirm the details already entered in previous steps. If either the OfficeTalk Database Location or the DDF destination directory are incorrect, use the '< Back' button to step backwards to previous steps and correct the information. When all the information is correct use the 'Finish' button to begin creation of the definition files.
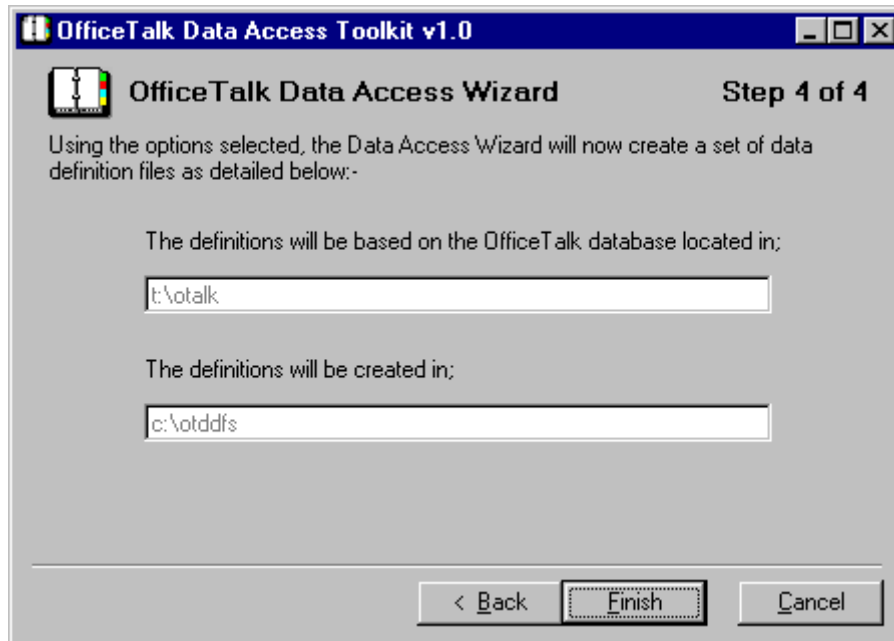
When the DDF files have been completed the following message will be displayed.

Successful Creation Message

What The Toolkit Does

The Data Access Toolkit is designed to produce a set of Btrieve Data Definition Files (DDF) specific to a particular OfficeTalk database. Having used the Toolkit to produce a set of DDF files these can then be used to directly access the OfficeTalk data from third-party reporting or development environments that support Btrieve data files. For example, MS Access (versions 1 and 2) allows Btrieve data files to be imported or attached to an Access database and then reported on or manipulated in the same way as native Access data. Access to the OfficeTalk data is available in a much wider range of environments when the DDF files are used in conjunction with a set of Btrieve ODBC drivers such as those produced by Pervasive Technologies (http://www.pervasive.com). Using this method of access allows the OfficeTalk database to be used in exactly the same way, and using exactly the same tools and applications, as any other ODBC compliant data source.

The definitions produced by the Toolkit consist of five files with the following names:-

file.ddf
field.ddf
index.ddf
fieldext.ddf
comments.ddf

These files together contain the definition information describing the data tables which make up the OfficeTalk database. Each OfficeTalk table which contains data pertinent to the workgroup rather than an individual data element, such as an OfficeTalk user, has only one definition within the DDF files whereas multiple definitions will exist for tables containing data pertinent to a specific data element, such a specific User's Diary Bookings. Although the structure of one User's Diary Bookings table is identical to that of another user, they will both reside in separate physical locations and as the data location information is stored within the DDF definition a separate definition is required for each occurrence of these tables.

OfficeTalk Data Structure

The next section contains a listing of the tables which make up the OfficeTalk database, together with their physical file name and location, relative to the OfficeTalk database directory, and the name used to represent the table within the definitions produced by the Toolkit.

Many of the file names, and some of the directory locations, are prefixed with a letter followed by 'xxxxxxx'. These files and directories are named to represent the data element to which the details contained within the data file pertain. In the case of data files specific to a particular OfficeTalk user, these reside in a directory specific to that user and named Pxxxxxxx, where xxxxxxx is the Base 36 representation of that user's ID within the people.otd data file. For more information on the type of Base 36 representation within OfficeTalk please refer to the 'Data Types Used In OfficeTalk' section below. An easy way to identify the name of the user's directory is to have that user log into OfficeTalk and then, whilst logged in as an OfficeTalk Supervisor, select the 'Who' option from the 'View' menu. Locate the user's name in the resulting list and you will find their directory name to the left enclosed in square brackets. The name of several of the user's data files also contain this xxxxxxx string and these will be the same as that used for the user's directory.

OfficeTalk Data Tables

OfficeTalk Table Name	Physical File Name & Location	Definition Table Name
Workgroup	comps.otd	Workgroup
Address	adds.otd	Address
Contact Groups Companies	_cntgrps\Xxxxxxxx.otd	CGCpyxxxxxxx
Contact Groups Contacts	_cntgrps\Cxxxxxxx.otd	CGConxxxxxxx
Classifications	tts.otd	Classifications
Companies	xcmps.otd	Companies
Contact Groups	contgrps.otd	ContactGroups
Contacts	contacts.otd	Contacts
Conversations	convs.otd	Conversations
Document Links	_xcmps\doclinks.otd	DocumentLinks
Documents	docs.otd	Documents
Employees	_xcmps\employs.otd	Employees
External Mail Contacts	emconts.otd	ExtMailContacts
Folders	folderdb.otd	Folders
Follow Up Tasks	follwups.otd	FollowTasks
Groups	groups.otd	Groups
Group Resources	_groups\Rxxxxxxx.otd	GRxxxxxxx
Group Users	_groups\Pxxxxxxx.otd	GUxxxxxxx
Holidays	holidays.otd	Holidays
Letter Templates	lettemps.otd	DocTemplates
Mail Bodies	msgdb.otd	MailBodies
Meetings	meetings.otd	Meetings
Meeting Members	_meets\Mxxxxxxx.otd	MMxxxxxxx
Notes	notes.otd	Notes
Notifications	ntfctns.otd	Notifications
Page Styles	pgstyles.otd	PageStyles
People	people.otd	People
Project Access Rights	_projs\Axxxxxxx.otd	PJAxxxxxxx
Project Tasks	_projs\Txxxxxxx.otd	PJTxxxxxxx
Planner Access Rights	_plans\Axxxxxxx.otd	PLAxxxxxxx
Planners	plans.otd	Planners
Planner Bookings	_plans\Pxxxxxxx.otd	PLBxxxxxxx
Planner Keys	_plans\Kxxxxxxx.otd	PLKxxxxxxx
Projects	projects.otd	Projects
Resource Binned Bookings	_resrcs\Bxxxxxxx.otd	RBxxxxxxx
Received Mail	rmdb.otd	ReceivedMail
Resources	rsrcs.otd	Resources
Resource Schedules	_resrcs\Sxxxxxxx.otd	RSxxxxxxx
Sent Mail	smdb.otd	SentMail
User Tasks (*)	Pxxxxxxx\t.otd	UTxxxxxxx
User Access Rights	Pxxxxxxx\a.otd	UAxxxxxxx
User Annual Events	Pxxxxxxx\anev.otd	UAExxxxxxx
User Binned Bookings	Pxxxxxxx\Bxxxxxxx.otd	UBxxxxxxx
User Schedules (*)	Pxxxxxxx\Sxxxxxxx.otd	USxxxxxxx
User Background Activities	Pxxxxxxx\pln.otd	UBAxxxxxxx
User Conversation Filters	Pxxxxxxx\Cxxxxxxx.otd	UCxxxxxxx
User Links	Pxxxxxxx\links.otd	ULxxxxxxx

Note: In addition to the above files, identical files may exist with a '.pre' extension as well as '.otd'. This is perfectly normal when a particular data file is in use.

* Only table definitions so marked will be created by the OfficeTalk Data Access Toolkit, in the absence of the correct 'enabling' password.

Data Table Structure

Diary Booking Flags - Data File: Sxxxxxx.otd

Name	Btrieve Data Type	Offset	Size (bytes)	Note
ID	Auto Increment	0	4	
Created	Integer	4	4	C Time
Edited	Integer	8	4	C Time
Name	Zstring	12	51	
Flags	Integer	63	2	
StartTime	Integer	65	4	C Time
Duration	Integer	69	4	
RemindTime	Integer	73	4	C Time
MeetingMessage	Integer	77	4	
TaskID	Integer	81	4	
TaskCreated	Integer	85	4	C Time
TaskEdited	Integer	89	4	C Time
TaskRef	Integer	93	4	
NoteID	Integer	97	4	
NoteCreated	Integer	101	4	C Time
NoteEdited	Integer	105	4	C Time
NoteRef	Integer	109	4	
PBookID	Integer	113	4	
PBookCreated	Integer	117	4	C Time
PBookEdited	Integer	121	4	C Time
PBookRef	Integer	125	4	
NBookID	Integer	129	4	
NBookCreated	Integer	133	4	C Time
NBookEdited	Integer	137	4	C Time
NBookRef	Integer	141	4	

Booking File Index

Ind	Seg	Dup	Mod	Man	Nul	Field Name	Alt	Des
0	0	No	No	No	No	ID	No	No
1	0	Yes	Yes	No	No	Edited	No	No
2	0	Yes	Yes	No	No	Name	Yes	No
3	0	Yes	Yes	No	No	StartTime	No	No
4	0	Yes	Yes	No	No	TaskRef	No	No
5	0	Yes	Yes	No	No	NoteRef	No	No
6	0	Yes	Yes	No	No	PBookRef	No	No
7	0	Yes	Yes	No	No	NBookRef	No	No

Key To Index's

Ind = Index	Mod = Modifiable	Fie = Field Name
Seg = Segment	Man = Manual	Alt = Alternate Collating Sequence
Dup = Duplicates	Nul = Null	Des = Descending

Task Flags - Data File: t.otd

Name	Btrieve Data Type	Offset	Size (bytes)	Note
ID	Auto Increment	0	4	
Created	Integer	4	4	C Time
Edited	Integer	8	4	C Time
Name	Zstring	12	51	
Flags	Integer	63	2	
Classification	Zstring	65	51	
ParentID	Integer	116	4	
ParentCreated	Integer	120	4	C Time
ParentEdited	Integer	124	4	C Time
ParentRef	Integer	128	4	
BookingID	Integer	132	4	
BookingCreated	Integer	136	4	C Time
BookingEdited	Integer	140	4	C Time
BookingRef	Integer	144	4	
UnusedPTL	String	148	32	
NoteID	Integer	180	4	
NoteCreated	Integer	184	4	C Time
NoteEdited	Integer	188	4	C Time
NoteRef	Integer	192	4	
Deadline	Integer	196	4	C Time
Duration	Integer	200	4	C Time
Priority	Integer	204	2	
SortOrdinate	Integer	206	2	

Task File Index

Ind	Seg	Dup	Mod	Man	Nul	Field Name	Alt	Des
0	0	No	No	No	No	ID	No	No
1	0	Yes	Yes	No	No	Edited	No	No
2	0	Yes	Yes	No	No	ParentRef	No	No
3	0	Yes	Yes	No	No	NoteRef	No	No

Data Types Used In OfficeTalk

As with any database, the individual records within the OfficeTalk data files are made up of a collection of data fields. Each field is of a specific data type, for example integer or string. Most of the types used will be self-explanatory to anyone familiar with data structures and reporting. Some of these standard types to represent data which appears in a completely different form within the OfficeTalk application. For example, all dates and times, although displayed in a conventional manner, are stored within the OfficeTalk data structure in a C Time format as 4 byte Integer fields. Therefore to read or write such data a conversion must be performed. The following documentation is designed to provide a brief description of these representations together with example code, suitable for MS Visual Basic (VB), for the conversion of such fields.

Date And Time - Microsoft C Time

The C Time data type stores both date and time serially as a 4-byte Integer representing the number of seconds since 00:00:00 GMT, January 1, 1970.

The following function code can be used within Visual Basic to convert a suitable 4-byte Integer to the corresponding VB DateSerial data type:-

Public Function CTimeToDate(ByVal IpTime As Long) As Date

IpTime = IpTime - 25200
CTimeToDate = DateAdd("s", IpTime, "01-Jan-1970")

End Function

The following function code can be used within Visual Basic to convert a VB DateSerial data type to the corresponding 4-byte Integer:-

Public Function DateToCTime(ByVal IpDate As Date) As Long

DateToCTime = DateDiff("s", "01-Jan-1970", IpDate, "Long Date") + 25200

End Function

Data Flags - Integer Representation Of Binary String

Most of the data files within OfficeTalk contain a 'Flags' field. This field contains a 2-byte Integer which represents a 16-bit binary string. The individual bits within the binary representation determine certain characteristics of the specific OfficeTalk data item the record describes. For example, within a users Diary Bookings file the value of the flags field determines whether an individual booking is binned, whether it is a meeting and, if so, whether it is a firm or tentative booking, whether the user should be reminded of the booking and whether the booking is private or not. In the case of a booking record if the Flags field had a value of 5 this would convert to 00000110 in binary. In this case the booking has the bits representing a whether it is a meeting booking and the fact that it is firm set to 1. However the least significant bit is set to 0 representing the fact that this booking has not been binned.

An explanation of the meaning of individual Flag field bits can be found in the next section - OfficeTalk Data File Flags.

The following function code can be used within Visual Basic to convert a suitable 2-byte Integer to a corresponding String (of length 16) made up of Binary digits:-

```
Function FlagToString(ByVal DecIp As Integer) As String

' Converts 2 Digit Decimal Integer To 8 Character Binary String
Dim BinOp As String
Dim DecConv As Integer
Dim Power As Integer
Dim BinSize As Integer
Dim i As Integer

If DecIp > 0 Then

   Do While DecIp - (2 ^ BinSize) >= 0
      BinSize = BinSize + 1
   Loop

   DecConv = DecIp
   For i = BinSize To 1 Step -1
      Power = 2 ^ (i - 1)
      If DecConv - Power >= 0 Then
         BinOp = BinOp & "1"
         DecConv = DecConv - Power
      Else
         BinOp = BinOp & "0"
      End If
   Next

   For i = 1 To 8 - Len(BinOp)
      BinOp = "0" & BinOp
   Next i

Else
   BinOp = "00000000"
End If

FlagToString = BinOp

End Function
```

Base 36 Integers

Although not used to represent data internally within the data structures, OfficeTalk does use Base 36 to name various data files and directories. Base 36 has 36 digits ranging from 0 through 9 then 'a' through 'z'. For example, the decimal number 38 would equate to 12 in Base 36. In many cases within the OfficeTalk data structure the physical filename of the data table containing details on a particular OfficeTalk item is determined by the Base 36 representation of the items ID contained within the main data table containing the header information for those items. In the case of OfficeTalk users general information pertaining to individual users are stored as records in the People data table. Each OfficeTalk user has their own data directory, within the main OfficeTalk database directory, in which tables containing data specific to that user are located. The name of each of these directories is made up of the Base 36 representation of the User's ID within the People table and is prefixed with the letter 'P'. So for the OfficeTalk user whose ID is 12, their corresponding user directory would be P0000012. Within the data definitions produced by the Toolkit

The following function code can be used within Visual Basic to convert an Integer to a corresponding String representing the Base 36 equivalent value:-

```
Function DecToB36(ByVal DecIp As Long) As String
```

```
'   Converts Decimal Integer To Base 36 String

    Dim i As Integer
    Dim j As Integer
    Dim B36Op As String
    Dim DecConv As Long
    Dim Power As Long
    Dim B36Rem As Long
    Dim B36Size As Long

    Do While DecIp - (36 ^ B36Size) >= 0
       B36Size = B36Size + 1
    Loop

    DecConv = DecIp
    For i = B36Size To 1 Step -1

       Power = 36 ^ (i - 1)
       B36Rem = Int(DecConv / Power)

       Select Case B36Rem
       Case 0 To 9
          B36Op = B36Op & Trim$(Str$(B36Rem))
       Case 10 To 35
          B36Op = B36Op & Chr$(B36Rem - 10 + 97)
       Case Else
          MsgBox ("Oops...")
       End Select

       DecConv = DecConv - (Power * B36Rem)

    Next

    If Len(B36Op) < 8 Then
       AddThis = ""
       i = 7 - Len(B36Op)
       For j = 1 To i
          AddThis = AddThis & "0"
       Next
       DecToB36 = AddThis & B36Op
    Else
       DecTo36 = -1
       MsgBox "Oh no that is far too big a number!!!!", 0, "Error!!!"
    End If

End Function
```

OfficeTalk Data File Flags

Diary Booking Flags - Data File: Sxxxxxx.otd

The flags for the records contained within an OfficeTalk user's Diary Bookings data file are as described below (from LSB to MSB):-

Bit	Flag Name	Description
0	Binned	Is the booking binned?
1	Meeting	Is this a meeting booking? Set to 0 for normal bookings.
2	Confirmed	Used only for meeting bookings. Set to 1 for confirmed meetings.
3	Remind	Should the user be reminded before this booking is due to start? Set to 1 if the user should be reminded.
4	First (Unused)	Always set to 1.
5	Private	Is the booking private to the owner? Set to 1 if it is private.
6	Unused	Always set to 0.
7	Unused	Always set to 0.
8	Unused	Always set to 0.
9	Unused	Always set to 0.
10	Unused	Always set to 0.
11	Unused	Always set to 0.
12	Unused	Always set to 0.
13	Unused	Always set to 0.
14	Unused	Always set to 0.
15	Unused	Always set to 0.

Task Flags - Data File: t.otd

The flags for the records contained within an OfficeTalk user's Task List data file are as described below (from LSB to MSB):-

Bit	Flag Name	Description
0	Binned	Is the task binned?
1	Require Deadline	Does this task have a deadline?
2	Completed	Has this task been completed?
3	Overdue	Is this task overdue?
4	Scheduled	Always set to 1.
5	Private	Is the task private to the owner? Set to 1 if it is private.
6	Unused	Always set to 0.
7	Unused	Always set to 0.
8	Unused	Always set to 0.
9	Unused	Always set to 0.
10	Unused	Always set to 0.
11	Unused	Always set to 0.
12	Unused	Always set to 0.
13	Unused	Always set to 0.
14	Unused	Always set to 0.
15	Unused	Always set to 0.