

vCard MIME Directory Profile

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Abstract

This memo defines the profile of the MIME Content-Type [[MIME-DIR](#)] for directory information for a white-pages person object, based on a vCard electronic business card. The profile definition is independent of any particular directory service or protocol. The profile is defined for representing and exchanging a variety of information about an individual (e.g., formatted and structured name and delivery addresses, email address, multiple telephone numbers, photograph, logo, audio clips, etc.). The directory information used by this profile is based on the attributes for the person object defined in the X.520 and X.521 directory services recommendations. The profile also provides the method for including a [[VCARD](#)] representation of a white-pages directory entry within the MIME Content-Type defined by the [[MIME-DIR](#)] document.

1. Overview

The [[MIME-DIR](#)] document defines a MIME Content-Type for holding different kinds of directory information. The directory information may be based on any of a number of directory schemas. This document defines a [[MIME-DIR](#)] usage profile for conveying directory information based on one such schema; that of the white-pages type of person object.

The schema is based on the attributes for the person object defined

in the X.520 and X.521 directory services recommendations. The schema has augmented the basic attributes defined in the X.500 series recommendation in order to provide for an electronic representation of the information commonly found on a paper business card. This

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schema was first defined in the [[VCARD](#)] document. Hence, this [MIME-DIR] profile is referred to as the vCard MIME Directory Profile.

A directory entry based on this usage profile can include traditional directory, white-pages information such as the distinguished name used to uniquely identify the entry, a formatted representation of the name used for user-interface or presentation purposes, both the structured and presentation form of the delivery address, various telephone numbers and organizational information associated with the entry. In addition, traditional paper business card information such as an image of an organizational logo or identify photograph can be included in this person object.

The vCard MIME Directory Profile also provides support for representing other important information about the person associated with the directory entry. For instance, the date of birth of the person; an audio clip describing the pronunciation of the name associated with the directory entry, or some other application of the digital sound; longitude and latitude geo-positioning information related to the person associated with the directory entry; date and time that the directory information was last updated; annotations often written on a business card; Uniform Resource Locators (URL) for a website; public key information. The profile also provides support for non-standard extensions to the schema. This provides the flexibility for implementations to augment the current capabilities of the profile in a standardized way. More information about this electronic business card format can be found in [[VCARD](#)].

2. The vCard Mime Directory Profile Registration

This profile is identified by the following [[MIME-DIR](#)] registration template information. Subsequent sections define the profile definition.

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME profile VCARD

Profile name: VCARD

Profile purpose: To hold person object or white-pages type of directory information. The person schema captured in the directory entries is that commonly found in an electronic business card.

Predefined MIME Directory types used: SOURCE, NAME, PROFILE, BEGIN, END, PROFILE.

Predefined MIME Directory parameters used: ENCODING, VALUE, CHARSET, LANGUAGE, CONTEXT.

New types: FN, N, PHOTO, BDAY, ADR, LABEL, TEL, EMAIL, MAILER, TZ, GEO, TITLE, ROLE, LOGO, AGENT, ORG, NOTE, REV, SOUND, URL, UID, VERSION, KEY

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New parameters: TYPE

Profile special notes: The type-grouping feature of [[MIME-DIR](#)] is supported by this profile to group related vCard properties about a directory entry. For example, vCard properties describing WORK or HOME related characteristics MAY be grouped with a unique group label.

The profile permits the use of non-standard types (i.e., those identified with the prefix string "X-") as a flexible method for implementations to extend the functionality currently defined within this profile.

[3. MIME Directory Features](#)

The vCard MIME Directory Profile makes use of many of the features defined by [[MIME-DIR](#)]. The following sub-sections describe specific usage constraints or extensions of these predefined features.

[3.1 BEGIN and END Type](#)

The content entity MUST begin with the BEGIN type with a value of VCARD. The content entity MUST end with the END type with a value of VCARD.

[3.2 NAME Type](#)

If the NAME type appears within a MIME entity conforming to this profile, it's value is the displayable, presentation text associated

with the source for the vCard, as specified in the SOURCE type.

[3.3](#) PROFILE Type

If the PROFILE type appears within a MIME entity conforming to this profile, it's value must be "VCARD".

[3.4](#) SOURCE Type

If the SOURCE type appears within a MIME entity conforming to this profile, it's value provides information how to find the source for the vCard.

[3.5](#) ENCODING Parameter

The default transfer encoding for the vCard profile is "8bit". The default transfer encoding MAY be overridden for an individual type value by using the "ENCODING" type parameter. The parameter value can be reset to either "7bit", "base64" or "quoted-printable". This type parameter MAY be used on any type, unless specified otherwise by the profile type registration.

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[3.6](#) CHARSET Parameter

The default character set for the vCard profile is "UTF-8". The default transfer encoding MAY be overridden for an individual type value by using the "CHARSET" type parameter. The parameter value MAY be reset to any IANA registered character set. This type parameter MAY be used on any type, unless specified otherwise by the profile type registration.

[3.7](#) LANGUAGE

The default language for the vCard profile is "en-US" (US English). The default language MAY be overridden for an individual type value by using the "LANGUAGE" type parameter. The parameter value MAY be reset to any IANA registered language. This type parameter MAY be used on any type, unless specified otherwise by the profile type registration.

[3.8](#) Line Endings

The usual line-folding technique described in [[MIME-DIR](#)] can be used to represent type values consisting of long lines of text.

A formatted text line break in a type value, MUST be specified by a ([RFC 822](#)) line break, which is a CRLF sequence. However, since the CRLF sequence is used to delimit a line, type values with formatted line breaks (i.e., multiple lines) MUST be encoded using the Quoted-Printable encoding.

For example, in the Quoted-Printable encoding the multiple lines of formatted text are separated with a Quoted-Printable CRLF sequence of "=0D" followed by "=0A" followed by a Quoted-Printable soft line break sequence of "=". Quoted-Printable lines of text must also be limited to less than 76 characters. The 76 characters does not include the CRLF [[RFC 822](#)] line break sequence. For example a multiple line LABEL value of:

```
Mr. John Q. Public
123 Main Street
Any Town, CA 12345
```

Would be represented in a Quoted-Printable encoding as:

```
LABEL;ENCODING=QUOTED-PRINTABLE:Mr. John Q. Public=0D=0A=
123 Mail Street=0D=0A=
Any Town, CA 12345
```

[3.9](#) Structured Type Values

Compound property values are delimited by a field delimiter, specified by the SEMI-COLON character (ASCII decimal 59). A SEMI-COLON in a component of a compound property value must be escaped with a Backslash character

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This profile supports the type grouping mechanism defined in [[MIME-DIR](#)]. Grouping of related types is a useful technique to communicate common semantics concerning the properties of a vCard.

[4.](#) vCard Features

[4.1](#) VALUE Type Parameter

The predefined data type values specified in [[MIME-DIR](#)] have been extended by the vCard profile to include a number of value types that

are specific to this profile.

4.1.1 BINARY

The "binary" value type specifies that the type value is inline, encoded binary data. This value type may be specified in the PHOTO, LOGO, SOUND, and KEY types.

If inline, encoded binary data is specified, the ENCODING type parameter must be used to specify the encoding format.

The value type is defined by the following notation:

```
binchar = <Any character valid in the base64 or quoted-printable
encoding>
binary      = *binchar          ;A base64 or quoted-printable
encoding of the binary information
```

4.1.2 VCARD

The "vcard" value type specifies that the type value is another vCard. This value type may be specified in the AGENT type. The value type is defined by this specification.

4.1.3 PHONE-NUMBER

The "phone-number" value type specifies that the type value is a telephone number. This value type may be specified in the TEL type. The value type is a text value that has the semantics of a telephone number.

4.1.4 UTC-OFFSET

The "utc-offset" value type specifies that the type value is a signed offset from UTC. This value type may be specified in the TZ type.

The format of the offset from UTC is defined by [DATETIME]. The value type is an offset from Coordinated Universal Time (UTC). It is specified as a positive or negative difference in units of hours and minutes (e.g., +hh:mm). The time is specified as a 24-hour clock. Hour values are from 00 to 24, and minute values are from 00 to 59. Hour and minutes are 2-digits with high order zeroes required to maintain digit count. The extended format for ISO 8601 UTC offsets

MUST be used. The extended format makes use of a colon character as a separator of the hour and minute text fields.

The value is defined by the following notation:

time-hour	=	2DIGIT	;00-24
time-minute	=	2DIGIT	;00-60
time-numzone	=	("+" / "-")	time-hour ":" time-minute
utc-offset	=	time-numzone	

[4.2 Identification Types](#)

These types are used in the vCard profile to capture information associated with the identification and naming of the person or resource associated with the vCard.

[4.2.1 FN Type Definition](#)

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type FN

Type name: FN

Type purpose: To specify the formatted text corresponding to the name of the object the vCard represents.

Type encoding: The default is 8bit. May also be reset to 7bit or quoted-printable.

Type value: text.

Type special notes: This type is based on the semantics of the X.520 Common Name attribute.

Type example:

FN:Mr. John Q. Public, Esq.

[4.2.2 N Type Definition](#)

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type N

Type name: N

Type purpose: To specify the structured components of the name of the object the vCard represents.

Type encoding: The default is 8bit. May also be reset to 7bit or quoted-printable.

Type value: text.

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Type special note: The type value is structured text corresponding, in sequence, to the Family Name, Given Name, Additional Names, Honorific Prefixes, and Honorific Suffixes. The text components are delimited by the SEMI-COLON character (ASCII decimal 59) and possibly one or more LWSP. This type is based on the semantics of the X.520 individual name attributes.

Type example:

N:Public;John;Quinlan;Mr.;Esq.

4.2.3 PHOTO Type Definition

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type PHOTO

Type name: PHOTO

Type purpose: To specify an image or photograph information that annotates some aspect of the object the vCard represents.

Type encoding: The default is 8bit. May also be reset to base64 in order to permit inline, encoded binary data.

Type value: The default is binary. It may also be reset to url. The url value may be used to specify a value outside of this MIME entity.

Type special notes: The type MAY include the type parameter "TYPE" to specify the graphic image format type. The TYPE parameter values MUST be one of the IANA registered image formats. In addition, a non-standard image format MAY be specified.

Type example:

PHOTO;VALUE=url:=http://www.abc.com/pub/photos
/jqpublic.gif

4.2.4 BDAY Type Definition

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type BDAY

Type name: BDAY

Type purpose: To specify the birthdate of the object the vCard represents.

Type encoding: 8bit.

Type value: The default is date. It may also be reset to date-time.

Type examples:

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BDAY:1996-04-15

BDAY:1953-10-15T23:10:00

BDAY:1987-09-27T08:30:00-06:00

4.3 Delivery Addressing Types

These types are concerned with information related to the delivery addressing or label for the object the vCard represents.

4.3.1 ADR Type Definition

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type ADR

Type name: ADR

Type purpose: To specify the structured components of the delivery address for the object the vCard represents.

Type encoding: The default is 8bit. It may also be reset to 7bit or quoted-printable.

Type value: text.

Type special notes: The type value is structured text consisting of a sequence of address components (i.e., extended address, post office box, street address, locality, region, postal code, and country name) separated by the SEMI-COLON character (ASCII decimal 59) and optionally one or more LWSP.

The type may include the type parameter "TYPE" to specify the delivery address type. The TYPE parameter values may include "dom" to

indicate a domestic delivery address; "intl" to indicate an international delivery address; "postal" to indicate a postal delivery address; "parcel" to indicate a parcel delivery address; "home" to indicate a delivery address for a residence; "work" to indicate delivery address for a place of work; and "pref" to indicate the preferred delivery address when more than one address might be specified. These type parameter values may be specified as a parameter list (i.e., "TYPE=dom;TYPE=postal") or as a value list (i.e., "TYPE=dom,postal"). This type is based on semantics of the X.520 geographical and postal addressing attributes. The default is "TYPE=intl,postal,parcel,work". The default can be overridden to some other set of values by specifying one or more alternate values. For example, the default can be reset to "TYPE=dom,postal,work,home" to specify a domestic delivery address for postal delivery to a residence that is also used for work.

Type example:

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ADR;TYPE=dom,home,postal,parcel:123 Main
Street;Any Town;CA;91921-1234

4.3.2 LABEL Type Definition

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type LABEL

Type name: LABEL

Type purpose: To specify the formatted text corresponding to delivery address of the object the vCard represents.

Type encoding: The default is 8bit. It may also be reset to 7bit or quoted-printable.

Type value: text.

Type special notes: The type value is formatted text that may be used to present a delivery address label for the object the vCard represents.

The type may include the type parameter "TYPE" to specify delivery label type. The TYPE parameter values may include "dom" to indicate a

domestic delivery label; "intl" to indicate an international delivery label; "postal" to indicate a postal delivery label; "parcel" to indicate a parcel delivery label; "home" to indicate a delivery label for a residence; "work" to indicate delivery label for a place of work; and "pref" to indicate the preferred delivery label when more than one label might be specified. These type parameter values may be specified as a parameter list (i.e., "TYPE=dom;TYPE=postal") or as a value list (i.e., "TYPE=dom,postal"). This type is based on semantics of the X.520 geographical and postal addressing attributes. The default is "TYPE=intl,postal,parcel,work". The default can be overridden to some other set of values by specifying one or more alternate values. For example, the default can be reset to "TYPE=intl,post,parcel,home" to specify an international delivery label for both postal and parcel delivery to a residential location.

Type example:

```
LABEL;ENCODING=quoted-printable;TYPE=dom,home,=
postal,parcel:Mr.John Q. Public, Esq.=0D=0A=
Mail Drop: TNE QB=0D=0A=
123 Main Street=0D=0A=
Any Town, CA 91921-1234=0D=0A=
U.S.A.
```

4.4 Telecommunications Addressing Types

These types are concerned with information associated with the telecommunications addressing of the object the vCard represents.

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4.4.1 TEL Type Definition

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type TEL

Type name: TEL

Type purpose: To specify the telephone number for telephony communication with the object the vCard represents.

Type encoding: 8bit.

Type value: phone-number.

Type special notes: .The value of this type is specified in a canonical form in order to specify an unambiguous representation of the globally unique telephone endpoint. This type is based on the X.500 Telephone Number attribute.

The type may include the type parameter "TYPE" to specify intended use for the telephone number. The TYPE parameter values may include: "home" to indicate a telephone number associated with a residence, "msg" to indicate the telephone line has voice messaging support, "work" to indicate a telephone number associated with a place of work, "pref" to indicate a preferred-use telephone number, "voice" to indicate a voice telephone line, "fax" to indicate a facsimile telephone line, "cell" to indicate a cellular telephone line, "video" to indicate a video conferencing telephone line, "pager" to indicate a paging device telephone line, "bbs" to indicate a bulletin board system telephone line, "modem" to indicate a MODEM connected telephone line, "car" to indicate a car-phone telephone line, "isdn" to indicate an ISDN service telephone line. The default type is "voice". These type parameter values may specified as a parameter list (i.e., "TYPE=work;TYPE=voice") or as a value list (i.e., "TYPE=work,voice"). The default may be overridden to another set of values by specifying one or more alternate values. For example, the default TYPE of "voice" can be reset to a WORK and HOME, VOICE and FAX telephone number by the value list "TYPE=work,home,voice,fax".

Type example:

TEL;TYPE=work,voice,pref,msg:+1-213-555-1234

[4.4.2 EMAIL Type Definition](#)

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type EMAIL

Type name: EMAIL

Type purpose: To specify the electronic mail address for communication with the object the vCard represents.

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Type encoding: 8bit.

Type value: text.

Type special notes: . The type may include the type parameter "TYPE"

to specify the format of the electronic mail address. The TYPE parameter values may include: "internet" to indicate an Internet addressing type or "x400" to indicate a X.400 addressing type. Any other IANA registered address type may also be specified. The default email type is "internet". Any non-standard value may also be specified.

Type example:

EMAIL;TYPE=internet:jqpublic@xyz.dom1.com

4.4.3 MAILER Type Definition

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type MAILER

Type name: MAILER

Type purpose: To specify the type of electronic mail software that is used by the individual associated with the vCard.

Type encoding: The default is 8bit. May also be reset to 7bit or quoted-printable.

Type value: text.

Type special notes: This information may provide assistance to a correspondent regarding the type of data representation which can be used, and how they may be packaged. This property is based on the private MIME type X-Mailer that is generally implemented by MIME user agent products.

Type example:

MAILER:PigeonMail 2.1

4.5 Geographical Types

These types are concerned with information associated with geographical positions or regions associated with the object the vCard represents.

4.5.1 TZ Type Definition

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type TZ

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Type name: TZ

Type purpose: To specify information related to the time zone of the object the vCard represents.

Type encoding: 8bit.

Type value: The default is utc-offset. It may also be reset to text.

Type examples:

TZ:-05:00

TZ;VALUE=text:-05:00, EST, Raleigh/North America

4.5.2 GEO Type Definition

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type GEO

Type name: GEO

Type purpose: To specify information related to the global positioning of the object the vCard represents.

Type encoding: 8bit.

Type value: Two float values separated by the SEMI-COLON character (ASCII decimal 59).

Type special notes: The value is the longitude and latitude of the object the vCard represents. The latitude represents the location north and south of the equator as a positive or negative number, respectively. The longitude represents the location east and west of the prime meridian as a positive or negative number, respectively. The text components are separated by the SEMI-COLON character (ASCII decimal 59).

Type example:

GEO:+37.24;-17.87

4.6 Organizational Types

These types are concerned with information associated with characteristics of the organization or organizational units of the object the vCard represents.

4.6.1 TITLE Type Definition

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type TITLE

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Type name: TITLE

Type purpose: To specify the job title, functional position or function of the object the vCard represents.

Type encoding: The default is 8bit. May also be reset to 7bit or quoted-printable.

Type value: text.

Type special notes: This type is based on the X.520 Title attribute.

Type example:

TITLE:Director, Research and Development

4.6.2 ROLE Type Definition

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type ROLE

Type name: ROLE

Type purpose: To specify information concerning the role, occupation, or business category of the object the vCard represents.

Type encoding: The default is 8bit. May also be reset to 7bit or quoted-printable.

Type value: text.

Type special notes: This type is based on the X.520 Business Category explanatory attribute. This property is included as an organizational type to avoid confusion with the semantics of the TITLE type and incorrect usage of that type when the semantics of this type is intended.

The type may specify the type parameters CHARSET, to specify a character set for the type value, and LANGUAGE, to specify a language

for the type value. These are further defined in [[MIME-DIR](#)].

Type example:

ROLE:Programmer

[4.6.3](#) LOGO Type Definition

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type LOGO

Type name: LOGO

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Type purpose: To specify a graphic image of a logo associated with the object the vCard represents.

Type encoding: The default is 8bit. May also be reset to base64 in order to permit inline encoded binary data.

Type value: The default is binary. It may also be reset to url. The url value may be used to specify a value outside of this MIME entity.

Type special notes: The type MAY include the type parameter "TYPE" to specify the graphic image format type. The TYPE parameter values MUST be one of the IANA registered image formats. In addition, a non-standard image format MAY be specified.

Type example:

LOGO;VALUE=URL:http://www.abc.com/pub/logos/abccorp.jpg

[4.6.4](#) AGENT Type Definition

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type AGENT

Type name: AGENT

Type purpose: To specify information about another person who will act on behalf of the individual or resource associated with the vCard.

Type encoding: 8-bit.

Type value: The default is vcard. It may also be reset to text or url. The text value may be used to specify textual information. The url value may be used to specify information outside of this MIME entity.

Type special notes: This type typically is used to specify an area administrator, assistant, or secretary for the individual associated with the vCard. A key characteristic of the Agent type is that it represents somebody or something that is separately addressable.

Type example:

```
AGENT;VALUE=URL:  
CID:///<JQPUBLIC.part3.960129T083020.xyzMail@host3.com>
```

4.6.5 ORG Type Definition

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type ORG

Type name: ORG

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Type purpose: To specify the organizational name and units associated with the vCard.

Type encoding: The default is 8bit. May also be reset to 7bit or quoted-printable.

Type value: text.

Type special notes: The type is based on the X.520 Organization Name and Organization Unit attributes. The type value is a structured text consisting of the organization name, followed by any organizational units. The text components are separated the SEMI-COLON character (ASCII decimal 59).

The type may specify the type parameters CHARSET, to specify a character set for the type value, and LANGUAGE, to specify a language for the type value. These are further defined in [[MIME-DIR](#)].

Type example:

```
ORG:ABC, Inc.;North American Division;Marketing
```

[4.7](#) Explanatory Types

These types are concerned with additional explanations, such as that related to informational notes or revisions specific to the vCard.

[4.7.1](#) NOTE Type Definition

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type NOTE

Type name: NOTE

Type purpose: To specify supplemental information or a comment that is associated with the vCard.

Type encoding: The default is 8bit. May also be reset to 7bit or quoted-printable.

Type value: text.

Type special notes: The type is based on the X.520 Description attribute.

The type may specify the type parameters CHARSET, to specify a character set for the type value, and LANGUAGE, to specify a language for the type value. These are further defined in [[MIME-DIR](#)].

Type example:

NOTE:This fax number is operational 0800 to 1715
EST, Mon-Fri.

[4.7.2](#) REV Type Definition

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type REV

Type name: REV

Type purpose: To specify revision information about the current vCard.

Type encoding: 8-bit.

Type value: The default is date-time. May also be reset to date.

Type special notes: The type value is a calendar date and time of day in a form conforming to complete representation of ISO 8601 calendar date and time of day format. The value distinguishes the current revision of the information defining this vCard.

Type example:

REV:1995-10-31T22:27:10Z

4.7.3 SOUND Type Definition

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type SOUND

Type name: SOUND

Type purpose: To specify a digital sound content information that annotates some aspect of the vCard. By default this type is used to specify the proper pronunciation of the name type value of the vCard.

Type encoding: The default is 8bit. May also be reset to base64 in order to permit inline encoded binary data.

Type value: The default is binary. It may also be reset to url. The url value may be used to specify a value outside of this MIME entity.

Type special notes: The type MAY include the type parameter "TYPE" to specify the audio format type. The TYPE parameter values MUST be one of the IANA registered audio formats. In addition, a non-standard audio format MAY be specified.

Type example:

SOUND;TYPE=BASIC;VALUE=URL:CID://<JOHNQPUBLIC.part8.
19960229T080000.xyzMail@host1.com>

4.7.4 URL Type Definition

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type URL

Type name: URL

Type purpose: To specify a uniform resource locator associated with the object that the vCard refers to.

Type encoding: 8bit.

Type value: url.

Type example:

URL:http://www.swbyps.restaurant.french/~chezchic.html

4.7.5 UID Type Definition

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type UID

Type name: UID

Type purpose: To specify a value that represents a globally unique identifier corresponding to the individual or resource associated with the vCard.

Type encoding: 8bit.

Type value: text.

Type special notes: The type is used to uniquely identify the object that the vCard represents.

The type may include the type parameter "TYPE" to specify the format of the identifier. The TYPE parameter value may be any IANA registered identifier format. The value may also be a non-standard format.

Type example:

UID:19950401-080045-40000F192713-0052

4.7.6 Version Type Definition

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type VERSION

Type name: UID

Type purpose: To specify the version of the vCard specification used to format this vCard.

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Type encoding: 8bit.

Type value: text.

Type special notes: The value must be "2.1" if the vCard version corresponds to the [[VCARD](#)] specification.

Type example:

VERSION: 2.1

[4.8](#) Security Types

These types are concerned with the security of communication pathways or access to the vCard.

[4.8.1](#) KEY Type Definition

To: ietf-mime-directory@umich.edu

Subject: Registration of application/directory MIME type VERSION

Type name: KEY

Type purpose: To specify an identifier corresponding to the highest version of the vCard profile used in creating the vCard.

To specify a public key or authentication certificate associated with the object that the vCard represents.

Type encoding: The default is 8bit. May also be reset to base64.

Type value: The default is text. May also be reset to binary.

Type special notes: The type may also include the type parameter TYPE to specify the public key or authentication certificate format. The parameter type may specify any IANA registered public key or authentication certificate format. The parameter type may also specify a non-standard format.

[4.9](#) Extended Types

The types defined by this document can be extended with private types using the non-standard, private values defined in [[RFC-2045](#)]. Non-standard, private types with a name starting with "X-" may be defined bilaterally between two cooperating agents without outside registration or standardization.

5. Formal Grammar

The following formal grammar is provided to assist developers in building parsers for the vCard.

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This syntax is written according to the form described in [RFC 822](#), but it references just this small subset of [RFC 822](#) literals:

```
CR          = <ASCII CR, carriage return> ; (15, 13.)
LF          = <ASCII LF, linefeed>         ; (12,10.)
CRLF       = CR LF
SPACE       = <ASCII SP, space>            ; (40,32.)
HTAB        = <ASCII HT, horizontal-tab>   ; (11,9.)
```

All literal property names are valid as upper, lower, or mixed case.

```
ws          = 1*(SPACE / HTAB)
            ; "whitespace," one or more spaces or tabs
```

```
wsls        = 1*(SPACE / HTAB / CRLF)
            ; whitespace with line separators
```

```
word        = <any printable 7bit us-ascii except []=:., >
```

```
groups      = groups "." word
            / word
```

```
vcardsentity = 1*([wsls] vcard [wsls])
```

```
vcards      = "BEGIN" [ws] ":" [ws] "VCARD" [ws] 1*CRLF
            items *CRLF
            "END" ws [ ":" [ws] "VCARD" 1*CRLF
```

```
items       = items *CRLF item
            / item
            ; these may be "folded"
```

```
item        = [groups "."] name
            [params] ":" value CRLF
            / [groups "."] "ADR"
            [params] ":" addressparts CRLF
            / [groups "."] "ORG"
            [params] ":" orgparts CRLF
```

```

        / [groups "."] "N"
        [params] ":" nameparts CRLF
        / [groups "."] "AGENT"
        [params] ":" vcard CRLF
; these may be "folded"

name      = "LOGO" / "PHOTO" / "LABEL" / "FN" / "TITLE"
          / "SOUND" / VERSION " " /
"TEL" / "EMAIL" / "TZ"
          / "GEO" / "NOTE" / "SOURCE" / "NAME" / "PROFILE"
          / "URL" / " " BDAY / "ROLE" /
"REV" / "UID" / "KEY"
          / "MAILER" / "X-" word
; these may be "folded"

value     = 7bit / quoted-printable / base64

7bit      = <7bit us-ascii printable chars, excluding CR LF>

```

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```

8bit      = <MIME RFC 2045 8-bit text>

quoted-printable = <MIME RFC 2045 quoted-printable text>

base64     = <MIME RFC 2045 base64 text>
; the end of the text is marked with two CRLF sequences
; this results in one blank line before the start of the next
; property

params     = ";" [ws] paramlist

paramlist  = paramlist [ws] ";" [ws] param
          / param

param      = "TYPE" [ws] "=" [ws] ptypeval
          / "VALUE" [ws] "=" [ws] pvalueval
          / "ENCODING" [ws] "=" [ws] pencodingval
          / "CHARSET" [ws] "=" [ws] charsetval
          / "LANGUAGE" [ws] "=" [ws] langval
          / "X-" word [ws] "=" [ws] word
          / knowntype

ptypeval   = knowntype / "X-" word

pvalueval  = "URL" / "TEXT" / "DATE" / "TIME" / "DATE-TIME"
          / "INTEGER" / "BOOLEAN" / "FLOAT" / "BINARY" /

```

```

        / "VCARD" / "PHONE-NUMBER" / "UTC-OFFSET" / "X-" word

pencodingval = "7BIT" / "8BIT" / "QUOTED-
PRINTABLE" / "BASE64"
        / "X-" word

charsetval    = <a character set text value as defined in Section 3
of RFC 2047>

langval       = <a language string as defined in RFC 1766>

addressparts  = 0*6(strnosemi ";") strnosemi
        ; PO Box, Extended Addr, Street, Locality, Region, Postal Code,
        ; Country Name

orgparts      = *(strnosemi ";") strnosemi
        ; First is Organization Name, remainder are Organization Units.

nameparts     = 0*4(strnosemi ";") strnosemi
        ; Family, Given, Middle, Prefix, Suffix.
        ; Example:Public;John;Q.;Reverend Dr.;III, Esq.

strnosemi     = (*nonsemi ("\;" / "\" CRLF)) *nonsemi
        ; To include a semicolon in this string, it must be escaped
        ; with a "\" character.

nonsemi       = <any non-control ASCII except ";">

```

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```

knowntype     = "DOM" / " " / "POSTAL"
INTL          / "PARCEL" / "HOME" / "WORK"
              / "PREF" / " " / "VOICE" / "FAX" /
"MSG" / "CELL" / "PAGER"
              / "BBS" / "MODEM" / "CAR" / "ISDN" / "VIDEO"
              / "INTERNET" / "GIF" / "JPEG" / "PCM" / "WAVE"
              / "X509" / "PGP"

```

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5.2 Authors's Addresses

```
BEGIN:vCard
FN:Frank Dawson
ORG:IBM Corporation;Network Software Division
ADR;TYPE=WORK,POSTAL,PARCEL:APNA/CC-303/Bldg. 002;
  3039 Cornwallis Rd.;Research Triangle Park;
  NC;27709;U.S.A.
TEL;TYPE=VOICE,MSG,WORK: +1 (919) 254-5861
TEL;TYPE=FAX,WORK: +1-919-543-6822
EMAIL;TYPE=INTERNET,PREF:fdawson@raleigh.ibm.com
EMAIL;TYPE=INTERNET:fdawson@earthlink.net
URL:http://home.earthlink.net/~fdawson
END:vCard
```

```
BEGIN:vCard
FN:Tim Howes
ORG:Netscape Communications Corp.
ADR;TYPE=WORK: 501 E. Middlefield Rd.;Mountain View;
  CA; 94043;U.S.A.
TEL;TYPE=VOICE,MSG,WORK:+1-415-937-3419
TEL;TYPE=FAX,WORK:+1-415-528-4164
EMAIL;TYPE=INTERNET:howes@netscape.com
END:vCard
```

5.3 References

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[ISO 8601] ISO 8601:1988 - Data elements and interchange formats - Information interchange - Representation of dates and times - The International Organization for Standardization, June, 1988.

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[ISO 9070] ISO 9070, Information Processing - SGML support facilities - Registration Procedures for Public Text Owner Identifiers, April, 1991.

[CCITT E.163] Recommendation E.163 - Numbering Plan for The International Telephone Service, CCITT Blue Book, Fascicle II.2, pp. 128-134, November, 1988.

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[RFC-1766] Alvestrand, H., "Tags for the Identification of Languages", March 1995.

[RFC-1872] Levinson, E., "The MIME Multipart/Related Content-type", [RFC 1872](#), December 1995.

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[VCARD] VERSIT Consortium, "vCard - The Electronic Business Card Version 2.1", <http://www.versit.com/pdi/vcard-21.txt>, September 18, 1996.

