

An Application/Directory MIME Content-Type
Electronic Business Card Profile

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2. Abstract

This memo defines a directory information profile for a white pages person, to be carried in an application/directory MIME Content-Type. The profile consists of type definitions (e.g., for name and email address) and the corresponding format of values that each type is allowed to contain.

3. Overview

The application/directory MIME Content-Type defined in [[MIME-DIR](#)] is used for representing directory information in MIME format. It defines a general framework for carrying "type: value" style information in the body of a MIME message, but does not define specific types or values. This document defines a profile containing the types and corresponding value formats for representing information about an electronic business card. The profile reflects the Versit Electronic Business Card (vCard) schema defined in [[VERSIT-VCARD](#)].

3.1. The vCard Profile

The profile is defined as follows, using the profile registration template from Section 8 of [[MIME-DIR](#)].

3.2. vCard Profile Definition

To: ietf-mime-direct@umich.edu

Subject: Registration of application/directory MIME profile vcard

Profile name: vcard

Profile purpose: To hold vcard information about an electronic business card.

Profile types: BEGIN, END, FN, N, PHOTO, BDAY, ADR, FADR, TEL, EMAIL, MAILER, TZ, GEO, TITLE, ROLE, LOGO, AGENT, ORG, NOTE, REV, SOUND, URL, UID, KEY

Profile special notes: The content entity must begin with the type BEGIN and end with the type END. There is no other ordering limitations on types within the content entity.

The default transfer encoding for the vCard profile is 7-Bit. Multiple line type values are not allowed for 7-Bit encoding. The default transfer encoding can be overridden for an individual type value by using the "ENCODING" type parameter. The parameter value can be reset to either "BASE64" or "QUOTED-PRINTABLE". This type parameter may be used on any profile type.

The default character set is ASCII. The default character set can be overridden for an individual type value by using the "CHARSET" type parameter. This type parameter may be used on any profile type. However, the use of this parameter on some profile types may not make sense.

The default language is "en-US" (US English). The default language can be overridden for an individual type value by using the "LANGUAGE" type parameter. This type parameter may be used on any profile type. However, the use of this parameter on some profile types may not make sense.

The default location of the type values is inline with the profile type. However, for some profile types, such as those that specify multimedia values, it is efficient to organize the type value as a separate MIME entity. The type parameter "VALUE" can be specified to override the "INLINE" location of the type value. The type value can be specified as being located in a separate MIME entity with the

"CID" value. In this case, the type value is the Content-ID for the MIME entity containing the type value. In addition, the type value can be specified as being located out on the network within some Internet resource with the "URL" value. In this case, the type value is the Uniform Resource Locator for the Internet resource containing the type value. This type parameter may be used on any profile type. However, the use of this parameter on some profile types may not make sense.

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

Intended usage: COMMON

The associated type definitions follow, using the type registration template from Section 9 of [MIME-DIR].

3.3. Delimiter Profile Types

The following profile types are used to delimit the vCard data within the content type. These types are useful to completely define the content type so that it might be identified as a vCard object when the content type is in a persistent form outside of a MIME message.

3.3.1. BEGIN Type Definition

To: ietf-mime-direct@umich.edu
Subject: Registration of application/directory MIME type BEGIN

Type name: BEGIN

Type purpose: To delimit the beginning of the vCard content data.

Type encoding: text.

Type special notes: The only valid value is "vCard".

Type example: BEGIN: vCard

3.3.2. END Type Definition

To: ietf-mime-direct@umich.edu
Subject: Registration of application/directory MIME type END

Type name: END

Type purpose: To delimit the end of the vCard content data.

Type encoding: text.

Type special notes: The type either has no value or has the value "vCard".

Type example:

END: vCard

3.4. Identification Profile Types

These profile types are concerned with information associated with the identification and naming of the individual or resource associated with the vCard object.

3.4.1. FN Type Definition

To: ietf-mime-direct@umich.edu

Subject: Registration of application/directory MIME type FN

Type name:FN

Type purpose: To specify the formatted name string associated with the vCard object.

Type encoding: text.

Type special notes: The value is intended to be used as a formatted string corresponding to how the name of the individual or resource associated with the vCard is to be displayed. This type is based on the semantics of the X.520 Common Name 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:

FN: Mr. John Q. Public, Esq.

3.4.2. N Type Definition

To: ietf-mime-direct@umich.edu

Subject: Registration of application/directory MIME type N

Type name: N

Type purpose: To specify the structured name strings associated with the vCard object.

Type encoding: text.

Type special note: The type value is a structured string corresponding, in sequence, to the Family Name, Given Name, Additional Names, Honorific Prefixes, and Suffixes corresponding to the individual or resource associated with the vCard. The component strings are delimited by SEMI-COLON characters and possibly one or more LWSP. This type is based on the semantics of the X.520 individual name attributes. 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:

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

3.4.3. PHOTO Type Definition

To: ietf-mime-direct@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 vCard object. By default this type is used to specify a photograph or image of the individual or resource associated with the vCard.

Type encoding: text.

Type special notes: The type may include the type parameter "TYPE" to specify the format of the graphic image. The TYPE parameter values may include "GIF" to indicate the GIF format and "JPEG" to indicate the JPEG format. The type may also include the type parameter "ENCODING" to specify the content encoding applied to the graphic image. The ENCODING parameter value may include "BASE64" to indicate the Base64 encoding or "QUOTED-PRINTABLE" to indicate the quoted printable encoding. The type may also include the type parameter "VALUE" to specify the location of the type value. The VALUE parameter values may include "INLINE" to indicate that the graphic image value is included within the content type value, "URL" to indicate the uniform resource locator for where the content for the graphic image can be found in the network, and "CID" to indicate the content-id for the MIME entity that encapsulates the content for the graphic image.

Type example:

PHOTO;TYPE=GIF;ENCODE=QUOTED-PRINTABLE;VALUE=URL: =

<http://www.abc.com/pub/photos/jqpublic.gif>

3.4.4. BDAY Type Definition

To: ietf-mime-direct@umich.edu Subject: Registration of
application/directory MIME type BDAY

Type name: BDAY

Type purpose: To specify the birthdate of the individual associated
with the vCard.

Type encoding: text.

Type special notes: The text value is a string conforming to the ISO
8601 calendar date, complete representation.

Type example:

BDAY: 1996-04-15

3.5. Delivery Addressing Profile Types

These profile types are concerned with information associated with the
delivery addressing or label for the vCard object.

3.5.1. ADR Type Definition

To: ietf-mime-direct@umich.edu
Subject: Registration of application/directory MIME type ADR

Type name: ADR

Type purpose: To specify the structured delivery address strings of
the individual or resource associated with the vCard.

Type encoding: text

Type special notes: The type value is a string consisting of a
sequence of address components (i.e., extended address, street
address, locality, region, postal code, and country name) separated
by SEMI-COLON and optionally one or more LWSP.

The usual line-folding technique described in [[MIME-DIR](#)] can be used
to represent multi-line addresses. For example, a line break in a
value should be encoded using either Base64 or Quoted-Printable
methods.

The type may include the type parameter "TYPE" to further qualify the

usage of the delivery address. 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" for 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 type may also 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:

```
ADR;ENCODING=QUOTED-PRINTABLE;TYPE=DOM,HOME,=  
POSTAL,PARCEL: 123 Main Street;Any Town; CA;91921-1234
```

3.5.2. FADR Type Definition

To: ietf-mime-direct@umich.edu

Subject: Registration of application/directory MIME type FADR

Type name: FADR

Type purpose: To specify the formatted delivery address string of the individual or resource associated with the vCard.

Type encoding: text

Type special notes: The type value is a string consisting of a sequence of lines of formatted text corresponding to the delivery address.

The usual line-folding technique described in [[MIME-DIR](#)] can be used to represent multi-line addresses. For example, a formatted line break in a value should be encoded using either Base64 or Quoted-Printable methods.

The type may include the type parameter "TYPE" to further qualify the usage of the delivery label. 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" for the preferred delivery label when more than one label might be specified. These type

parameter values may 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.

Type example:

```
FADR;ENCODING=QUOTED-PRINTABLE;TYPE=DOM,HOME,=
POSTAL,PARCEL: Mr.John Q. Public, Esq.=0A=
Mail Drop: TNE QB=0A=
123 Main Street=0A=
Any Town, CA 91921-1234=0A=
U.S.A.=
```

3.6. Telecommunications Addressing Profile Types

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

3.6.1. TEL Type Definition

To: ietf-mime-direct@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 individual or resource associated with the vCard.

Type encoding: text.

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 further qualify the usage of 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. 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").

Type example:

TEL;TYPE=WORK,VOICE,PREF,MSG: +1-213-555-1234

3.6.2. EMAIL Type Definition

To: ietf-mime-direct@umich.edu

Subject: Registration of application/directory MIME type EMAIL

Type name: EMAIL

Type purpose: To specify the address for electronic mail communication with the vCard object. The address is in the form of a specific addressing type. The default is an Internet addressing type.

Type encoding: text.

Type special notes: . The type may include the type parameter "TYPE" to specify the addressing type 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. Other type values are allowed, but are to be specified by individual electronic mail service providers.

Type example:

EMAIL;Type=INTERNET: jqpublic@xyz.dom1.com

3.6.3. MAILER Type Definition

To: ietf-mime-direct@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 object.

Type encoding: 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 accepted within the MIME user agent product offerings.

Type example:

MAILER: cc:Mail Mobil 2.2

3.7. Geographical Profile Types

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

3.7.1. TZ Type Definition

To: ietf-mime-direct@umich.edu
Subject: Registration of application/directory MIME type TZ

Type name: TZ

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

Type encoding: text.

Type special notes: the type value is specified as a string as specified in a manner consistent with [ISO 8601]. It is an offset from Coordinated Universal Time (UTC). An ISO 8601 UTC offset, in basic format, is specified as a positive or negative difference in units of hours and minutes (e.g., +hhmm). If minutes are zero, then they may be omitted and the format would be specified in units of hours (e.g., +hh). 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 makes use of a colon character as a separator of the hour and minute substrings.

Type example:

TZ: -05

3.7.2. GEO Type Definition

To: ietf-mime-direct@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 vCard object.

Type encoding: text.

Type special notes: the type value is a structured string that specifies a longitude and latitude. 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 string components are separated by the SEMI- COLON character.

Type example:

GEO: 37.24; -17.87

3.8. Organizational Profile Types

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

3.8.1. TITLE Type Definition

To: ietf-mime-direct@umich.edu

Subject: Registration of application/directory MIME type TITLE

Type name: TITLE

Type purpose: To specify the job title, functional position or function of the individual or resource associated with the vCard object within an organization

Type encoding: text.

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

TITLE: Director, Research and Development

3.8.2. ROLE Type Definition

To: ietf-mime-direct@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 vCard object within an organization.

Type encoding: 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

3.8.3. LOGO Type Definition

To: ietf-mime-direct@umich.edu

Subject: Registration of application/directory MIME type LOGO

Type name: LOGO

Type purpose: To specify a graphic image of the logo of the organization that is associated with the individual or resource the vCard belongs to.

Type encoding: text.

Type special notes: The type may include the type parameter "TYPE" to specify the format of the graphic image. The TYPE parameter values may include "GIF" to indicate the GIF format and "JPEG" to indicate the JPEG format. The type may also include the type parameter "ENCODING" to specify the content encoding applied to the graphic image. The ENCODING parameter value may include "BASE64" to indicate the Base64 encoding or "QUOTED-PRINTABLE" to indicate the quoted-printable encoding. The type may also include the type parameter "VALUE" to specify the location of the type value. The VALUE parameter values may include "INLINE" to indicate that the graphic image value is included within the content type value, "URL" to indicate the uniform resource locator for where the content for the graphic image can be found in the network, and "CID" to indicate the content-id for the MIME entity that encapsulates the content for the graphic image.

Type example:

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

3.8.4. AGENT Type Definition

To: ietf-mime-direct@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 object.

Type encoding: text.

Type special notes: This type typically is used to specify an area administrator, assistant, or secretary for the individual associated with the vCard object. A key characteristic of the Agent type is that it represents somebody or something that is separately addressable. The value for this type is the content message identifier or Uniform Resource Locator associated with the vCard defining the Agent individual or resource.

The type may include the type parameter "VALUE" to specify the location of the type value. The VALUE parameter values may include "CID" to indicate the value specifies the content identifier for the MIME entity containing the value or "URL" to indicate the value specifies the uniform resource locator for the value. The type parameter may also include "INLINE"; however, this is not a recommended practice as MIME user agents will not be expected to be able to process vCard objects nested in this manner. Nested vCard object will be expected to be mailed within a single message as multiple MIME entities. The INLINE nesting of vCard object may have some limited utility in where a monolithic data stream is required.

Type example:

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

3.8.5. ORG Type Definition

To: ietf-mime-direct@umich.edu

Subject: Registration of application/directory MIME type ORG

Type name: ORG

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

Type encoding: text.

Type special notes: The type is based on the X.520 Organization Name and Organization Unit attributes. The type value is a structured string consisting of the organization name, followed by any

organizational units. The string components are separated the SEMI-COLON character.

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

3.9. Explanatory Profile Types

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

3.9.1. NOTE Type Definition

To: ietf-mime-direct@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 object.

Type encoding: 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.

3.9.2. REV Type Definition

To: ietf-mime-direct@umich.edu

Subject: Registration of application/directory MIME type REV

Type name: REV

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

Type encoding: text.

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

Type example:

REV: 19951031T222710Z

3.9.3. SOUND Type Definition

To: ietf-mime-direct@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 object. By default this type is used to specify the proper pronunciation of the name type value of the vCard object.

Type encoding: text.

Type special notes: The type may include the type parameter "TYPE" to specify the format of the digital sound. The TYPE parameter values may include "PCM" to indicate the MIME basic audio content type and "WAVE" to indicate the Wave format. The type may also include the type parameter "ENCODING" to specify the content encoding applied to the digital sound. The ENCODING parameter value may include "BASE64" to indicate the Base64 encoding. The type may also include the type parameter "VALUE" to specify the location of the type value. The VALUE parameter values may include "INLINE" to indicate that the digital sound is included within the content type value, "URL" to indicate the uniform resource locator for where the content for the digital sound can be found in the network, and "CID" to indicate the content-id for the MIME entity that encapsulates the content for the digital sound.

Type example:

SOUND;TYPE=PCM;ENCODE=QUOTED-PRINTABLE;VALUE=CID: =
<JOHNQPUBLIC.part8.19960229T080000.xyzMail@host1.com>

3.9.4. URL Type Definition

To: ietf-mime-direct@umich.edu

Subject: Registration of application/directory MIME type URL

Type name: URL

Type purpose: To specify an Internet location that can be used to obtain real-time or more complete information about the individual or resource associate with the vCard object.

Type encoding: text.

Type special notes: An application of this type might be to specify the location of a publicly accessible directory, such as an Internet whitepages, where up-to-date information can be found about the individual specified by a vCard.

Type example:

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

3.9.5. UID Type Definition

To: ietf-mime-direct@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 object.

Type encoding: text.

Type special notes: The type value can be used as a mechanism to relate different vCard objects. Some examples of valid forms of unique identifiers would include ISO 9070 formal public identifiers (FPI) as defined in [ISO 9070], X.500 distinguished names, machine-generated random numbers with a statistically high likelihood of being globally unique, and Uniform Resource Locators (URL). If an URL is specified, it is suggested that the URL reference a service which will produce an updated version of the vCard associated with the individual or resource.

The type may include the type parameter "TYPE" to specify the format of the unique identifier. The TYPE parameter values may include "ISO9070" to indicate the ISO 9070 FPI type of unique identifier, "X500" to indicate the X.500 DSN type of unique identifier, "MACH" to indicate a machine generated random number type of unique identifier, and "URL" to indicate a Uniform Resource Locator type of unique identifier.

Type example:

UID;TYPE=MACH: 19950401-080045-40000F192713-0052

3.10. Security Profile Types

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

3.10.1. KEY Type Definition

To: ietf-mime-direct@umich.edu

Subject: Registration of application/directory MIME type KEY

Type name: KEY

Type purpose: To specify a public key that conforms to a bilaterally agreed to representation.

Type encoding: text.

Type special notes: The type may include the type parameter "ENCODING" to specify the content encoding applied to the public key. The ENCODING parameter value may include "BASE64" to indicate the Base64 encoding or "QUOTED-PRINTABLE" to indicate the quoted-printable encoding. The type may also include the type parameter "TYPE" to specify the type of the public key. The TYPE parameter value may include "X509" to indicate a X.509 public key certificate or "PGP" to indicate an PGP public key.

3.11. Extended Profile Types

The profile types defined by this document can be extended with private types using the private type mechanism defined in [MIME]. Private types with a name starting with "X-" may be defined bilaterally between two cooperating agents without outside registration or standardization.

4. Formal Grammar

The following grammar defines the content entity specified by this profile.

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.

```

vcard_file      = [wsls] vcard [wsls]

vcard           = "BEGIN:VCARD" CRLF items "END:VCARD"

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

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

items           = items item
                / item

item            = [ws] [groups "."] name
                [params] ":" value CRLF
                / [ws] [groups "."] "ADR"
                [params] ":" addressparts CRLF
                / [ws] [groups "."] "ORG"
                [params] ":" orgparts CRLF
                / [ws] [groups "."] "N"
                [params] ":" nameparts CRLF
                / [ws] [groups "."] "AGENT"
                [params] ":" vcard CRLF

value           = 7bit / quoted-printable / base64

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

quoted-printable = <MIME RFC 1521 quoted-printable text>

base64          = <MIME RFC 1521 base64 text>

groups          = groups "." word
                / word

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

params          = ";" param / paramlist

paramlist       = paramlist ";" param
                / param

param           = "TYPE" "=" ptypeval
                / "VALUE" "=" pvalueval
                / "ENCODING" "=" pencodingval
                / "CHARSET" "=" charsetval

```



```

        / "LANGUAGE" "=" langval
        / "X-" word "=" word
        / knowntype

ptypeval      = knowntype / "X-" word

pvalueval     = "INLINE" / "URL" / "CID" / "X-" word

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

charsetval = <a character set string as defined in Section 7.1 of RFC 1521>

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

addressparts = 5*5(strnosemi ";") strnosemi

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 (";" / "
                ; To include a semicolon in this string, it must be escaped
                ; with a "

nonsemi = <any non-control ASCII except ;>

name          = "LOGO" / "PHOTO" / "LABEL" / "FN" / "TITLE"
                / "SOUND" / "LANG" / "TEL" / "EMAIL" / "TZ" / "GEO" / "NOTE"
                / "URL" / "BDAY" / "ROLE" / "REV" / "UID" / "KEY"
                / "MAILER" / "X-" word

knowntype     = "DOM" / "INTL" / "POSTAL" / "PARCEL" / "HOME" / "WORK"
                / "PREF" / "VOICE" / "FAX" / "MSG" / "CELL" / "PAGER"
                / "BBS" / "MODEM" / "CAR" / "ISDN" / "VIDEO"
                / "AOL" / "APPLELINK" / "ATTMAIL" / "CIS" / "EWorld"
                / "INTERNET" / "IBMMAIL" / "MSN" / "MCIMAIL"
                / "POWERSHARE" / "PRODIGY" / "TLX" / "X400"
                / "GIF" / "CGM" / "WMF" / "BMP" / "MET" / "PMB" / "DIB"
                / "PICT" / "TIFF" / "ACROBAT" / "PS" / "JPEG" / "QTIME"
                / "MPEG" / "MPEG2" / "AVI"
                / "WAVE" / "AIFF" / "PCM"
                / "X509" / "PGP"

```


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[4.2.](#) Authors's Addresses

```
BEGIN: vCard
FN: Frank Dawson
ORG: IBM Corporation;Network Software Division
ADR;TYPE=WORK,POSTAL,PARCEL;ENCODING=QUOTED-PRINTABLE: 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: frank_dawson@vnet.ibm.com
END: vCard
```

```
BEGIN: vCard
FN: Tim Howes
ORG: Netscape Communications Corp.
ADR;TYPE=WORK: 685 E. Middlefield Rd.;Mountain View;CA;94043;U.S.A.
TEL;TYPE=VOICE,MSG,WORK: +1-415-254-1900
EMAIL;TYPE=INTERNET: howes@netscape.com
END: vCard
```

[4.3.](#) References

[ISO 639]
ISO 639:1988 - Code for the representation of names of languages -
The International Organization for Standardization, April 1988.

[ISO 3166]
ISO 3166:1993 - Codes for the representation of names of countries
- The International Organization for Standardization, December
1993.

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

[ISO 8601 TC]
ISO 8601, Technical Corrigendum 1 - Data elements and interchange
formats - Information interchange - Representation of dates and
times - The International Organization for Standardization, May,

1991.

[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.

[CCITT X.121]

Recommendation X.121 - International Numbering Plan for Public Data Networks, CCITT Blue Book, Fascicle VIII.3, pp. 317-332, November, 1988.

[CCITT X.520]

Recommendation X.520 - The Directory - Selected Attribute Types, November 1988.

[CCITT X.521]

Recommendation X.521 - The Directory - Selected Object Classes, November 1988.

[MIME-DIR]

Howes, T., Smith, M., "A MIME Content-Type for Directory Information", Internet-draft-ietf-asid-mime-direct-01.txt, February, 1996.

[MIME-REG]

Freed, N., Postel, J., "Multipurpose Internet Mail Extensions (MIME) Part Four: Registration Procedures," Internet- Draft [draft-ietf-822ext-mime-reg-02.txt](#), December 1995.

[RFC-822]

Crocker, D., "Standard for the Format of ARPA Internet Text Messages", STD 11, [RFC 822](#), August 1982.

[RFC-1521]

Borenstein, N., Freed, N., "MIME (Multipurpose Internet Mail Extensions) Part One: Mechanisms for Specifying and Describing the Format of Internet Message Bodies", RFC 1521, September 1993.

[RFC-1522]

Moore, K., "MIME (Multipurpose Internet Mail Extensions) Part Two: Message Header Extensions for Non-ASCII Text", [RFC 1522](#), September 1993.

[RFC-1738]

Expires November 1996

INTERNET DRAFT

Berners-Lee, T., Masinter, L., McCahill, M., "Uniform Resource Locators (URL)", [RFC 1738](#), December 1994.

[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.

[VERSIT-VCARD]

VERSIT Consortium, "Electronic Business Card (vCard) Specification", <http://www.versit.com>, March, 1996. vCard Application/Directory Content Type

