

# Infrared Data Association Specifications for Ir Mobile Communications (IrMC)

## ERRATA 991014



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## Table of Contents

INFRARED DATA ASSOCIATION (IrDA) - NOTICE TO THE TRADE - .....	iii
Table of Contents .....	v
Errata Type Classifications .....	1
1. Formal Definition of info.log IEL Field .....	2
2. Line lengths should be limited to 75 characters.....	2
3. Inconsistency in the info.log definition (colon/semi-colon) .....	3
4. Clarification on how to support object push of the IETF versions of vCard and vCalendar .....	3
5. Clarification on how to support object GET of the IETF versions of vCard and vCalendar .....	4
6. Enhancement – “Free-Records:” in Change Log.....	5
7. Enhancement – Enhanced change log to reduce chattiness .....	6
8. Enhancement – Multiple Add/Modify/Delete File .....	8



## Errata Type Classifications

Following are a list of errata to the IrMC Specification Version 1.1 dated March 01, 1999.  
The points are classified according to the following scheme:

**CLARIFICATION:** Textual enhancement that provides a clearer explanation of a specification item without changing any behavior.

**ENHANCEMENT:** An addition of architectural or parametrical elements with very little impact on the device's bandwidth occupancy.

**MODIFICATION:** A modification of the currently specified behavior which is backwards compatible ( i.e. which does not require any modification of already existing IrMC products )

**CHANGE:** A modification of the currently specified behavior that obsoletes some items in IrMC Version 1.1

**PROBLEM:** A known problem for which an erratum has yet to be proposed.

All references to “application” within this document refer to any device or software application that implements IrMC.

## 1. Formal Definition of info.log IEL Field

Approved Oct99

**Problem:**

Sect 2.9.16 Formal Definition of info.log

The values for the formal definition for the IEL field, are different from the values listed in section 2.9.4

**Solution:**

Change the formal definition in 2.9.16 to match the table in sect 2.9.4 i.e.

```
<information-exchange-level> ::= "IEL:" { "0x01" | "0x02" | "0x04" | "0x08" | "0x10" }
```

## 2. Line lengths should be limited to 75 characters

Approved Oct99

**Problem:**

Line lengths should be limited to be no longer than 75 characters. The solution text has been taken from the vCard 3.0 specification (RFC2445).

**Solution:**

Add the following text to the end of section 2.9 (Information logs). Note, this only applies to the information logs, it does not apply globally to the entire document.

Lines of text in the information logs, SHOULD NOT be longer than 75 octets, excluding the line break. Long content lines SHOULD be split into a multiple line representations, using a line *folding* technique. That is, a long line can be split between any two characters, by inserting a CRLF immediately followed by a single linear white space character (i.e., SPACE, US-ASCII decimal 32 or HTAB, US-ASCII decimal 9).

Any sequence of CRLF followed immediately by a single linear white space character is ignored (i.e., removed) when processing the content type. The process of moving from this folded multiple line representation to its single line representation is called *unfolding*. Unfolding is accomplished by removing the CRLF character and the linear white space character that immediately follows. When parsing a content line, folded lines MUST first be unfolded according to the unfolding procedure described above.



### **3. Inconsistency in the info.log definition (colon/semi-colon)**

**Approved at Oct99**

**Problem:**

Sect 2.9.16 defines the separator between the "TEL" and the "TYPE" field as a semi-colon. All of the examples in the specification use a colon.

**Solution:**

Change the examples to use semi-colons. Add a note to the BNF definition in 2.9.16 to say:

*In the V1.0 and V1.1 versions of the specification, there was an inconsistency in the character used to separate the "TEL" and "TYPE" fields. It is recommended that the info.log parser is able to decode the field with either separator.*

### **4. Clarification on how to support object push of the IETF versions of vCard and vCalendar**

**Approved Oct99**

**Problem:**

When the IrMC spec was written, the latest approved versions of vCard and vCalendar were 2.1 and 1.0 respectively. Now that the IETF has adopted these, the specifications have been updated. The new versions are not backwards compatible. Any modifications to the IrMC, must be backwards compatible with IrMC 1.0 and IrMC 1.1.

**Solution:**

Add a clarification section to say that

"The V1.0 and V1.1 versions of the IrMC standard, were based on vCard2.1 and vCalendar1.0. The following example shows how the latest versions of these standards (vCard3.0) can be handled. The same mechanism can be used for the other IrMC objects.

If one device wants to push a vCard3.0 object to a remote device, it can do this in three ways.

- 1) Get the remote devices' devinfo.txt, to identify what versions of vCard the remote device supports.
- 2) Get the remote devices' phonebook info.log, to identify what versions of vCard the remote device supports. Note, the "Version:" field within the info log should be used to list the versions supported. The version that is transmitted by default, is the version that is listed first.  
For example "Version:2.1;3.0".
- 3) Get the remote devices' capabilities object for vCard, to identify what versions of vCard the remote device supports.

These solutions rely on an OBEX connection. Objects sent by Ultra, must be sent in the vCard2.1 format."

## **5. Clarification on how to support object GET of the IETF versions of vCard and vCalendar**

**Approved Oct99**

**Problem:**

When the IrMC spec was written, the latest approved versions of vCard and vCalendar were 2.1 and 1.0 respectively. Now that the IETF has adopted these, the specifications have been updated. The new versions are not backwards compatible. Any modifications to the IrMC, must be backwards compatible with IrMC 1.0 and IrMC 1.1.

**Solution:**

Add a clarification section to say that

"The V1.0 and V1.1 versions of the IrMC standard, were based on vCard2.1 and vCalendar1.0. The following example shows how the latest versions of these standards (vCard3.0) can be handled. The same mechanism can be used for the other IrMC objects.

If a local device wants to get an object from a remote device in vCard3.0 format, it can do this in the following way. If any of the stages fail (OBEX response code is not success), the remote device will send the data in default format (vCard2.1 etc).

- 1) Make an OBEX connection
- 2) Use the mechanisms listed in "Clarification on how to support object push of the IETF versions of vCard and vCalendar" errata to identify if the remote device supports the capabilities that are required.
- 3) Send the capabilities of the local device to the remote device, using the OBEX object profile mechanism.
- 4) Subsequent GET responses will contain the objects in the requested format. I.e. vCard3.0

## 6. Enhancement – “Free-Records:” in Change Log

Approved Oct99

### Problem:

The “Free-Records:” property that was approved at the July 1999 meeting, can only be accessed from the info log.

### Solution:

Add a “Free-Records:” field to change log. The “Free-Records:” field would report the maximum number of records that can be added without filling the memory. Thus the value represents the free space divided by the maximum record size. If the value cannot be calculated ‘\*’ should be returned.

Add the optional field "<free-records>" to the change log object in section 5.5.2. The free records field is an errata on IrMCV1.1, so it should be noted that this field may not be present.

```
<change-log-object>:= {
    <device-info-serial-number-field> <CRLF>
    <databaseid><CRLF>
    <total-records><CRLF>
    <maximum-records><CRLF>
    <free-records><CRLF>
    { <change-log-entries> | <change-log-full> } }
```

## 7. Enhancement – Enhanced change log to reduce chattiness

Approved Oct99

### Problem:

The level 4 change log does not include the actual data changed but only references to changed records in the form of LUIDs. This causes “chattiness” (many command-response cycles).

### Solution:

Add a new section which describes a new change log file format. The pathname is “**telecom/XX/luid/#####.lgd**”. This file is the existing change log, with the contents of any new, or changed, records appended on the end. The changed records are in the same format as the stream format (level 2).

**Add the following to the BNF of the existing change log to create a new defn for this chapter.**

```
<changed-records-begin-tag>::="Changed-Records:"<crlf>"<Begin>"<crlf>
<changed-records-end-tag>::="<End>"<crlf>
<changed-records-entries>::='Records with LUIDs represented in the change log. Same format as in the stream.
    Each record include the X-IRMC-LUID property.'
<changed-records>::=<changed-records-begin-tag> <changed-records-entries> <changed-records-end-tag>
<enhanced-change-log-object>::= {
    <device-info-serial-number-field> <CRLF>
    <databaseid><CRLF>
    <total-records><CRLF>
    <maximum-records><CRLF>
    { {<change-log-entries><changed-records>} | <change-log-full>} }
```

**Add to section 2.9 – New Section “ECL – Enhanced change log”**

2.9.X ECL – Enhanced change log

Indicated if the device has an enhanced change log (.lgd). Acceptable values are YES and NO. This property is optional, absence of the ECL property indicates that the enhanced change log is not available.

**Add to section 2.9.16 – “Formal definition of information log”**

```
<enhanced-change-log-available>::="ECL:" "YES"|"NO" <crlf>
```

**Add the following example to the new sync section**

Phone book example:

```
SN:1218182THD000001-2
DID:dsfhjg3hg4jf
Total-Records:4
Maximum-Records:50
M:46::19970401-080045-40000F192713-0052
D:47::19790327-080045-40000F192713-0053
M:48::19740715-080045-40000F192713-0123
M:49::19740715-080045-40000F192713-0123
Changed-Records:
<Begin>
BEGIN:VCARD
N:Birkler
TEL:1
X-IRMC-LUID:19970401-080045-40000F192713-0052
END:VCARD
```

```
BEGIN:VCARD
N:Novak
TEL:2
X-IRMC-LUID:19740715-080045-40000F192713-0123
END:VCARD
<End>
```

This example indicates that:

- The Device Serial Number is: 1218182THD000001-2
- The Database ID is: dsfhjg3hg4jf
- The Total Records in the Object Store is 4
- The Maximum Number of records that can be stored in the Object Store is 50
- Record with LUID 19970401-080045-40000F192713-0052 has been modified, and the Change Counter associated with this add is 46. There is no timestamp in the change log.
- Record with LUID 19970401-080045-40000F192713-0053 has been deleted, and the Change Counter associated with this delete operation is 47. There is no timestamp in the change log.
- Record with LUID 19970401-080045-40000F192713-0123 has been added, and the Change Counter associated with this modification is 48. There is no timestamp in the change log.
- Record with LUID 19740715-080045-40000F192713-0123 has been modified after the addition and the Change Counter associated with this modification is 49. There is no timestamp in the change log.
- vCard data for the modified record 19970401-080045-40000F192713-0052 and the added/modified record 19740715-080045-40000F192713-0123.

## 8. Enhancement – Multiple Add/Modify/Delete File

Approved Oct99

### Problem:

When adding/modifying/deleting records this is done on a per record basis. This causes “chattiness” (many command-response cycles) because each change to a record results in a response with LUID and sync anchor.

### Solution:

**Create a new section in the synchronisation section.**

Add a new stream file where multiple records can be added, modified and deleted. The records are identified with the X-IRMC-LUID property. Thus the method is only available for Level 4 and above. The results of the successful changes are reported in a number of application response headers, one for each successful modification to the object store.

Example:

```
M:868::19740715-080046-40000F192713-2014
M:869::19740715-080045-40000F192713-0123
H:870::19740715-080045-40000F192713-2013
BEGIN:VCARD
N:Birkler
TEL:1
X-IRMC-LUID:19970401-080045-40000F192713-2014
END:VCARD
BEGIN:VCARD
N:Novak
TEL:2
X-IRMC-LUID:19740715-080045-40000F192713-0123
END:VCARD
```

Response:

AppResponseHeader [0x01,0x21,"19740715-080046-40000F192713-2014", 0x02,0x03,"869"]

AppResponseHeader [0x01,0x21,"19740715-080045-40000F192713-0123", 0x02,0x03,"870"]

AppResponseHeader [0x01,0x21,"19740715-080045-40000F192713-2013", 0x02,0x03,"871"]

- New record “Birkler” added, record was assigned LUID 19740715-080046-40000F192713-2014
- Record 19740715-080045-40000F192713-0123 modified to “Novak”
- Record 19740715-080045-40000F192713-2013 deleted.

### Add to the devinfo.txt section

<multiple-put-file-max-instruction-count>::='Asci coded decimal. Number of instruction that can the device can handle in a multiple put file. 0 if multiple file put is unsupported.'

<multiple-put-file-max-instruction-count-tag>::='MPF:' <multiple-put-file-max-instruction-count><crLf>