

Infrared Data Association Specifications for Ir Mobile Communications (IrMC)

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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 behaviour.

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 behaviour which is backwards compatible (i.e. which does not require any modification of already existing IrMC products)

CHANGE: A modification of the currently specified behaviour 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. Clarification: Specify how the Version field within info logs is used**Problem:**

The IrMC spec does not specify how the Version field within the information logs should be used. The proposed text was part of an errata approved at the October 1999 meeting.

Solution:

Add new sub-section to section 2.9 Information Logs.

The “Version:” field within the information logs 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”.

Note, the text “Version:” may appear in upper, lower or mixed case.

2. Race condition on Sync Command

Problem:

In the following example, the phone is the device that is sending the push command, and the PC is the recipient.

The IrMC specification does state what the PC should do after it receives the push command from the phone. The specification says “It will initiate that synchronization session by reversing roles and acting as a client again. It will then connect to the phone (now an IrMC Server).”

A clarification is needed to ensure interoperability. There are two options,

1) The PC waits for the IR link (LAP) to be closed down, and a new IR link started with the PC as the primary device at the LAP level. A delay of 500ms+ is implicit between the two connections, as the PC will have to adhere to the MAC rules.

2) The PC waits for the phone to close the OBEX connection, and then it initiates a new OBEX connection. The phone is still the primary at the LAP level.

Without this clarification, there is a race condition where the PC could be initiating a new OBEX connection at the same time as the phone is closing down the underlying LAP link.

I prefer option 2, as it much quicker especially for other transports like Bluetooth.

Solution:

Add text to Sect 5.8.1 that states that “After the phone has sent the push command, the phone should disconnect the OBEX connection, but maintain the LAP link to allow the PC to make its OBEX connection. The PC should wait until it has received the OBEX disconnect indication, before it initiates its own OBEX connection to the phone. The phone should wait for the PC to send the LAP request disconnect command before closing down the IR link.”

Additional text added 28th June 1999:

With the proposed solution, there can be a problem with a low data throughput. Add the following text.

“In the example above, the phone will be the LAP primary, so it controls the LAP turnaround delay. If a primary device does not have any data to transmit, it can wait for the maximum link turnaround timer to expire, before it transmits the RR command. To maximise data throughput, the phone must quickly turn the link around, even if it does not have any data to transmit. The phone can use an intelligent scheme where it eventually returns to the maximum link turn around, if it does not have any data to transmit, and has not received any data for a certain period.”

3. Level 4 GET Responses with X-IRMC-LUID property

Postponed at Oct99 meeting.

Ericsson to review - possibly change sect 4.2

Problem:

Sect 5.7.3 and 5.7.5

According to 4.2 Read Access spec. (Unique Index Note): The X-IRMC-LUID property ... should not be included in Level 4 GET Responses since the LUID can be derived from the Object name.

5.7.3 Sync with Changes That Fit the Change Log (Fast Sync) Cell OBEX response : "Jörgen", X-IRMC-LUID=899 should be : "Jörgen"

5.7.5 Sync with Full Change Log (Semi Slow Sync) Cell OBEX response : "Tarzan", X-IRMC-LUID=999 should be : "Tarzan"

Solution:

Rewrite a few words in Sect 5.7.3 and 5.7.5

According to 4.2 Read Access spec. (Unique Index Note): The X-IRMC-LUID property ... **does not have to** be included in Level 4 GET Responses since the LUID can be derived from the Object name.

4. Addition: New field for the date and time in Call History Objects

Problem:

The call history objects are a stream of vCards. The date and time of the missed calls cannot be communicated directly.

Solution:

Add a new paragraph to Section 7.6 Call History Objects.

The X-IRMC-CALL-DATETIME: field can be used within the vCards in the call history objects, to identify the date and time of the call. The date/time format must be the same as specified in vCalendar Section 2.1.7 Date and Time.

```
BEGIN:VCARD
VERSION:2.1
N:Oops;Jimbo;;Mr.
FN:Jimbo Oops
TEL;CELL;VOICE:+44 (0509) 696969
X-IRMC-CALL-DATETIME:19960415T083000Z
END:VCARD
```

5. Addition: New field in the phonebook information log to specify the maximum number of entries of call history objects

Problem:

The IrMC spec does not specify the maximum number of entries that can be in the call history objects. The objects can only be accessed at level 2, so the number of entries has to be known.

Solution:

Add new fields in Section 7.7.1 Information Logs

```
<incoming-call-log-max-records> ::= "ICL-Maximum-Records:" <digits-or-empty> | "*"
<outgoing-call-log-max-records> ::= "OCL-Maximum-Records:" <digits-or-empty> | "*"
<missed-call-log-max-records> ::= "MCL-Maximum-Records:" <digits-or-empty> | "*"
```

6. *Addition: New field in the phonebook information log to specify whether the SIM contents are linked with the main memory*

Problem:

Some devices like mobile phones have contact information stored on SIM cards and in the main storage memory. With the SIM cards for the 3rd generation phones, there is the possibility to use the UID field in the two memories to link the entries. For example, a short version of the contact could be stored in the SIM card that has limited memory, and the detailed information like street address could be stored in the main memory.

There is no way for the synchronisation software on the PC from knowing whether the entries are linked or not.

Similarly, the SIM could just be a reduced content copy of the main memory.

Solution:

Add new fields in Section 7.7.1 Information Logs

`<sim1-main-linked> ::= "SIM1-Main-Linked:" "YES" | "NO"`

`<sim2-main-linked> ::= "SIM2-Main-Linked:" "YES" | "NO"`

`<sim1-main-copy> ::= "SIM1-Main-Copy:" "YES" | "NO"`

`<sim2-main-copy> ::= "SIM2-Main-Copy:" "YES" | "NO"`

7. Addition: Support for devices with SIM cards

Problem:

Some devices like mobile phones have contact information stored on SIM cards.

The device's main memory typically has greater storage capacity than the SIM card, but the SIM card offers portability between mobile devices. The user may want to contain the full vCard for a colleague in the main memory, but only their colleague's name and number in the SIM card. The user has stored the entries in a specific memory for a good reason, and would not want them moved between them.

The current version of the IrMC specification (V1.1) does not consider devices with more than one memory store for a given object type (vCard). One solution is to merge the contents of the devices SIM card and main memory. That is, a device that contains 50 phonebook entries in the main memory, and 50 entries in the SIM card, looks like one phonebook containing 100 entries.

The synchronisation software will not know that the entries are stored in two separate data stores, and may happily move entries between them. For example, if an entry is deleted from the main memory, and the synchronisation software is performing an access level update, it may shuffle all the entries down by one index, before writing them back. The entry that used to be stored at index 50 (in SIM) will now be at index 49 (main memory).

Similarly, entries in the main memory may be moved into the SIM memory. In this case, data may be lost, as the SIM card's memory is typically less comprehensive than the devices main memory (i. e. just one name and one number).

Solution:

Create a new Section after the Synchronisation section.

Support for devices with SIM cards

Scope

SIM cards can contain many items, including the items listed below

- *subscribers identification number*
- *user defined phonebook entries (name & number)*
- *service dialling numbers (read only)*
- *abbreviated dialling numbers*
- *messages received from Short Message Services (SMS)*
- *...*

This specification does not attempt to provide access to all of the possible entries that can be stored in SIM cards. The specification does provide access to the areas that are currently addressed by the IrMC specification. That is, the user defined phonebook, calendar, messages and notes.

Information like Abbreviated Dialling Number can be accessed on an ad-hoc basis by using the OBEX folder browsing mechanism. This information is SIM specific, and changes with time, and as such is outside of the scope of this specification.

Access Mechanism

The contents of the SIM card are accessed by utilising the OBEX folder browsing concept. The OBEX SET_PATH command can be used to select the SIM card. The original telecom structure can be accessed by first performing an OBEX SET_PATH with no name.

The proposal is to add a new SIM object at the root level. The top level objects (pb,cal,msg,nt) are duplicated below the SIM level. This allows the contents of the SIM's phonebook to be defined separately from the main memory, in the info logs.

For example,

*/SIM1/telecom/pb.vcf
/SIM1/telecom/pb/0.vcf
/SIM1/telecom/pb/1.vcf
/SIM1/telecom/pb/....
/SIM1/telecom/pb/info.log*

Owners' vCard

The entry 0.vcf has a special meaning in the main memory. It is implementation specific if this is mapped into the SIM card. If it is, the device may wish to consider storing the following in TEL fields.

- *personal number (MSISDN)*
- *fax number*
- *data number*
- *line 1 number (ALS)*
- *line 2 number (ALS)*

Update the IAS Entry section (13.1) to add a new paragraph, and update the values in the table.

Support for SIM card(s) is reflected in the IAS, by attributes. This naming can be extended to support more than 2 SIM cards. . The triples within these attributes are identical to the triples defined for Parameters and Parameters2.

*The serial number triple in the Parameters2 attribute **must** be used to identify the serial number of the SIM card where possible. This will allow the PC synchronisation software to track SIM cards as they move between devices. It is implementation specific how the change logs for the contents of the SIM cards are handled.*

Class IrDA:TELECOM

Attributes

<i>IrDA:TinyTP:LsapSel</i>	<i>Integer (0x01)</i>
<i>Parameters</i>	<i>Octet Sequence (0x02)</i>
<i>Parameters2</i>	<i>Octet Sequence (0x02)</i>
<i>Parameters_SIM1</i>	<i>Octet Sequence (0x02) 1st SIM card</i>
<i>Parameters2_SIM1</i>	<i>Octet Sequence (0x03) 1st SIM card</i>
<i>Parameters_SIM2</i>	<i>Octet Sequence (0x02) 2nd SIM card</i>
<i>Parameters2_SIM2</i>	<i>Octet Sequence (0x03) 2nd SIM card</i>
