

# SA8481 Replace Calling Party Number with ASAI/ANI

## *Feature description*

This green feature allows an ASAI application that is placing an outgoing ISDN call via the third party make call operation to supply information that will be used by Definity to build the calling party information associated with the outgoing call. The ASAI application does this by including the desired calling party information in the User to User information element portion of the third party make call request. In order to use this green feature, a customer-supplied ASAI application is required along with the standard ASAI libraries.

## *Feature Functionality*

Consider the following scenario: A hearing-impaired person wants to order a pizza. The person places a data call (to allow information to be exchanged via text rather than voice) to a service to get assistance in ordering the pizza. The call comes into a CM and is directed to a vector for processing. An adjunct route step in the vector requests an ASAI application to provide a route to an available agent to handle the call. Let's label the call from the hearing impaired person to the assisting agent call 'A'. The agent then uses the ASAI third party make call capability to place a call to the pizza parlor on behalf of the hearing-impaired person. Label this second call 'B'. The assisting agent then acts as a translator between the voice call 'B' and the text-based call 'A'. The above activities can be accomplished with current CM and ASAI capabilities but there is one problem. In the above scenario, the calling party information associated with call 'B' will indicate that the assisting agent is the calling party. The desired behavior is to have call 'B' appear as if it came directly from the hearing impaired person, since the call is being made on their behalf. This will be accomplished as follows. When call 'A' comes into CM, the route request message sent to the ASAI application contains the calling party information from the call<sup>1</sup>. What is needed is to provide a way for the ASAI application to send this calling party information to CM as part of the third party make call request. The Replace Calling Party Number with ASAI ANI feature will allow this by using the UUI IE in the third party make call request message. If the ASAI application puts a specially formatted string in the contents of the UUI IE, Definity will use the supplied information to generate the calling party number IE for the resulting outgoing call.

1. Use ASAI provided calling party information in place of actual calling party information. If the Replace Calling Party Number with ASAI ANI feature is active, CM receives a third party make call request containing a UUI IE with the correct special and the make call request results in an outgoing ISDN call, CM should use the contents of the UUI IE in the third party make call request to generate the calling party number IE to place in the outgoing SETUP message. The details of how the data in the UUI IE are transformed into a calling party number IE are given in section 7.1.2. The contents of the UUI IE replace the calling party information in the outgoing SETUP only. They do not replace the calling party information in other places such as event reports sent by CM to the ASAI application.

If the third party make call request contains a UUI IE without the special format, Definity will treat the UUI IE just as it does today, as if the Replace Calling Party Number with ASAI ANI feature were not active. If CM receives an ASAI third party make call request containing a UUI IE, CM will ordinarily send this UUI IE out in the outgoing SETUP message that results from the request. If the UUI IE contains calling party information, we don't want to send this information out as a UUI IE in the SETUP message because the UUI information is only intended for the local CM, not for the other end of the outgoing call.

2. Don't send a UUI IE in the outgoing SETUP message if the UUI is calling party information.

If the Replace Calling Party Number with ASAI ANI feature is active, Definity receives a third party make call request containing a UUI IE with the correct special format, and the make call request results in an outgoing ISDN call, the UUI IE should not be included in the outgoing SETUP message.

Definity has administration, both on a per-trunk group basis and on a per-station basis, that controls whether a calling party ID IE will be sent on a given call and also controls whether the calling party number is marked presentation restricted. If the calling party information for a given outgoing ISDN call is being passed to Definity from an ASAI application, then Definity administration controlling the calling party number IE should be ignored because the ASAI application is in control.

3. Ignore administration that controls the format and sending of the calling party ID IE if the calling party information is being supplied in the UUI IE of a third party make call request. If the Replace Calling Party Number with ASAI ANI feature is active and CM receives a third party make call request containing a UUI IE with the correct special format, CM should ignore both per-station and per-trunk group administration that controls the format of and sending of calling party number information in the outgoing SETUP message. In this case, Definity should always send the calling party number provided in the UUI IE, regardless of any administration to the contrary. The presence and contents of the presentation indicator in the calling party number IE should also be determined solely based on the contents of the UUI IE and should be independent of any administration to the contrary. If the third party make call request does not contain a UUI IE with the correct special format, Definity will include (or not include) the calling party number IE using its current algorithms and the given translations, just as if the Replace Calling Party Number with ASAI ANI feature were not active. If a call results from an ASAI third party make call request, CM sends event reports to the ASAI application when certain events occur on the call. One example of such an event is when the far end of the call is alerting. These event reports will include a UUI IE if CM is storing any UUI associated with the call. This operation will be unchanged if the UUI happens to be calling party information.

4. UUI IE will be included in event reports.  
If the Replace Calling Party Number with ASAI ANI feature is active and CM receives a third party make call request containing a UUI IE with the correct special format, CM will include this UUI in any event reports that are sent to the ASAI application concerning this call.

## Feature Administration

1. Execute “change system-parameters special-applications” and enable “SA8481 Replace Calling Party Number with ASAI ANI”.

```
change system-parameters special-applications
SPECIAL APPLICATIONS
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(SA8481) - Replace Calling Party Number with ASAI ANI? y
(SA8500) - Expanded UI Display Information? n
(SA8506) - Altura Interoperability (FIPN)? n
(SA8507) - H245 Support With Other Vendors? n
(SA8508) - Multiple Emergency Access Codes? n
(SA8510) - NTT Mapping of ISDN Called-Party Subaddress IE? n
(SA8517) - Authorization Code By COR? n

(SA8520) - Hoteling Application for IP Terminals? n
(SA8558) - Increase Automatic MWI & VuStats (S8700 only)? n
(SA8567) - PHS X-Station Mobility over IP? n
(SA8569) - No Service Observing Tone Heard by Agent? n
(SA8573) - Call xfer via ASAI on CAS Main? n
(SA8582) - PSA Location and Display Enhancements? n
(SA8587) - Networked PSA via QSIG Diversion? n
(SA8589) - Background BSR Polling? n
(SA8608) - Increase Crisis Alert Buttons (S8700 only)? n
(SA8621) - SCH Feature Enhancements? n
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## Known Restrictions and Interactions

1. SA7778 Display UI Information

SA7778 allows a ‘uui-info’ button to be administered on a display-equipped telephone. Pressing this button will display UI information associated with a call. If SA8481 is active and the UI associated with a given call follows the special format defined in section 7.1.2, this UI data is not guaranteed to be displayable ascii characters. If the ‘uuiinfo’ button is used on such non-ascii UI data, the results are unpredictable. It is recommended that SA7778 and SA8481 not be used together.

2. MST

MST filtering of ISDN PRI messages allows the ability to filter the messages collected based on calling party number. With SA8481 active, if the calling party number has been modified by this feature, it is the modified calling party number that will be used to determine if a call matches the MST filtering criteria. It will not be possible to trace all outgoing calls from an agent’s phone by specifying the agent’s number as the calling party number on which MST filtering is to trigger. It will still be possible to see all calls from the agent’s phone (and all other phones in the system) by not filtering on the calling party number.

### SA 8481

If the Replace Calling Party Number with ASAI ANI feature is active and Definity receives a third party make call request containing a UUI IE with the correct special format, Definity will include this UUI in any event reports that are sent to the ASAI application concerning this call.

### 7.1.2 Detailed Description

This section describes the format of a UUI IE that will be interpreted by Definity as calling party information to be used for an outgoing call:

1. First octet - The first octet must have the hexadecimal value '7e'. This is the identifier for a UUI IE, as defined in the Q.931 specification.
2. Second octet - This octet contains the length, in octets, of the UUI IE contents. When counting the length of the UUI IE contents, we do not include the identifier octet or the length octet but we do include the protocol discriminator.
3. Third octet - This octet contains the protocol discriminator. This octet is not used for our purposes and may contain any value.
4. Fourth octet - This octet must contain the hexadecimal value '2a'. This is equivalent to the ascii character '\*'. This octet tells Definity that this UUI IE is to be interpreted as calling party number information. If this octet contains any value other than hexadecimal '2a', this UUI IE will be treated as ordinary UUI and will not be used to generate a calling party number IE.
5. Fifth octet - This octet will contain two sub-fields, the type of number field and the numbering plan identifier. These two fields will be copied over to the calling party number IE without change.

The type of number

field occupies bits 5 through 7 of this octet (-xxx---) and may take the following binary values:

- a. 000 - unknown number
- b. 001 - international number
- c. 010 - national number
- d. 100 - local or subscriber number

The numbering plan identifier field occupies bits 1 through 4 (----xxxx) of this octet and may take the following binary values:

- a. 0000 - unknown numbering plan
- b. 0001 - ISDN numbering plan
- c. 1001 - private numbering plan

Bit 8 of this octet - the most significant bit (x-----) may contain either 0 or 1 in the UUI IE. The value of this bit in the UUI IE contents is unspecified. Definity may modify this bit when building the calling party number IE, based upon whether or not a presentation indicator is to be included - see the definition of the optional last octet below for more information on the presence or absence of a presentation indicator.

6. Sixth through second last (or last, if optional next octet is not present) octet - These octets are the actual digits, in ascii, to be used for the calling party number. These digits will be copied to the address digits field of the calling party number IE without change. Note that the maximum number of digits that is allowed in a calling party number IE is 15. If more than 15 digits are included in the UUI IE, the extra digits will be discarded when forming the calling party number IE.

7. Last octet - This octet is optional. If it is present, it will have the hexadecimal value '2a'. This is equivalent to the ascii character '\*'. If this optional character is not present, no presentation indicator will be included when the calling party number IE is built. If this optional character is present, a presentation indicator will be included in the calling party number IE and it will be marked presentation restricted. If present in the UUI IE, this '\*' character will not be included in the address digits portion of the calling party number IE.

It is possible that the development environment used to create an ASAI application will have an API that supports inclusion of UUI information in a third party make call request. It is likely that the API will supply the first three octets (items 1 through 3 above) of the UUI IE automatically. In this case, only the actual contents of the IE (items 4 through 7) should be provided as input to the API. **E.G. The TSAPI Exerciser is such an application.**

Here are some example UUI IEs to illustrate the above rules. All values in the following examples are hexadecimal.

The first example is a UUI IE that is not to be treated as calling party information:

— 7e 04 00 31 32 33

The next example is a UUI IE that is to be treated as calling party number information. In this IE, the actual digits of the calling number are 303 538-3313. No presentation indicator is to be included in the calling party number IE. The type of number field specifies a 'national' number and the numbering plan identifier field specifies an 'ISDN' numbering plan:

— 7e 0d 00 2a 21 33 30 33 35 33 38 33 33 31 33

The final example is a UUI IE with the same calling party number information as the previous example except that this IE indicates that the calling party number should be marked presentation restricted:

— 7e 0e 00 2a 21 33 30 33 35 33 38 33 33 31 33 2a

**Remember that the call must go out a trunk! This behavior will not work station to station.**

Tested with MakePredictiveCall() against CM 6.0.1 on 8-27-2012 and the service works.