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| Re: | P802.16e/D5 | |
| Abstract | Resource Retention Preference for MSSs in Idle Mode | |
| Purpose | Adoption of proposed changes into P802.16e/D5 | |
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# Resource Retention Preference

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## Overview

Current draft allows only two extreme ways of retaining resources in the perspective of service flows: not retaining resources for any service flow at all (when Bit #6 is 0) and retaining resources for all service flows (when Bit #6 is 1). There is no way to trade-off between the two extremes. Differentiation of Service Flows according to the resource retention preference is useful in making trade-off between the fast recovery from idle mode and the overhead for retaining resources.

Our proposal is basically to allow an MSS to express its resource retention preference when creating or changing Service Flows and to negotiate with BS whether the preferences will be considered in resource retention during idle mode. If the resource retention preferences are considered, only the resources for the Service Flows with positive resource retention preference are retained; otherwise, resources for all Service Flows are retained.

For the negotiation between MSS and BS, Bit #7 is used to indicate whether the resource retention preferences will be considered. Bit #7 is meaningful only when Bit #6 is set, while it is reserved when Bit #6 is unset.

Resource retention preference of a Service Flow can be expressed by:

1. Explicit indication, or
2. Implicit indication via paging preference.

Explicit indication is more straightforward but requires new field definition in DSx messages.

Paging preference of a Service Flow is not a perfect match to the resource retaining preference. Implicit indication via paging preference, however, will be still useful due to the following reasons. Firstly, it is reasonable to expect that the Service Flows of positive paging preference can be beneficial from resource retaining. Secondly, at the same time, Paging Controller or Serving BS may reduce resource consumption by freeing up the resource associated with the service flows of negative paging preference.

## *Specific Text Changes*

***Remedy 1: Explicit Indication of Resource Retention Preference***

11.13 Service Flow management encodings

***/***Insert the following entries to the Table 381. ***/***

Table 381-Service flow encodings

| Type | Parameter |
|---|---|
| 29 | Minimum Tolerable Traffic Rate |
| 30 | Type of Data Delivery Services |
| 31 | SUD Inter-arrival Interval |
| 32 | Time Base |
| 33 | Paging Preference |
| 34 | Traffic Indication Preference |
| 35 | Resource Retention Preference |

**[**Insert new section. **]**

11.13.28 Resource Retention Preference

This parameter specifies preference on whether resource for a Service Flow will be retained during Idle Mode.

| Type | Length | Value | DSX |
|---|---|---|---|
| [145/146].35 | 1 | 0: No Resource Retention<br>1: Resource Retention | DSx-REQ<br>DSx-RSP<br>DSx-ACK |

**[**Add the following after the descriptions on Bit #6 in 11.14 and 11.15. **]**

Bit #7: Consider Resource Retention Preference of each Service Flow in resource retention. Bit #7 is meaningful when Bit #6 has a value of '1'. If both Bit #6 and Bit #7 is 1, MSS service and operational information associated with Full service (MAC state machines, CS classifier information, etc) are retained for Service Flows with positive Resource Retention Preference. If Bit #6 is 1 and Bit #7 is 0, MSS service and operational information associated with Full service (MAC state machines, CS classifier information, etc) are retained for all Service Flows.

***Remedy 2: Implicit Indication of Resource Retention Preference via Paging Preference***

**[**Add the following after the descriptions on Bit #6 in 11.14 and 11.15. **]**

Bit #7: Consider Paging Preference of each Service Flow in resource retention. Bit #7 is meaningful when Bit #6 has a value of '1'. If both Bit #6 and Bit #7 is 1, MSS service and operational information associated with Full service (MAC state machines, CS classifier information, etc) are retained for Service Flows with positive Paging Preference. If Bit #6 is 1 and Bit #7 is 0, MSS service and operational information associated with Full service (MAC state machines, CS classifier information, etc) are retained for all Service Flows.