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Title	**IEEE 802.16.1 Convergence Sublayer for ATM**
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Re:	IEEE 802.16.1-00/06 – IEEE 802.16.1 Call for Contributions on Specific Open technical Issues in "Air Interface for Fixed Broadband Wireless Access Systems"
Abstract	This document defines the ATM convergence sublayer and the convergence process for the IEEE 802.16.1 Air Interface Specification.
Purpose	Provide a description of the ATM convergence sublayer to be added to "Standard for Air Interface for Fixed Broadband Wireless Access Systems"
Notice	
Release	
Patent Policy and Procedures	

ATM Convergence Sublayer for 802.16.1

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1. Overview

The IEEE 802.16 *Asynchronous Transfer Mode* (ATM) *Convergence Sublayer* (CS) resides on top of the IEEE 802.16 *Media Access Control* (MAC) *Common Part Sublayer* (CPS). The ATM CS is responsible for accepting ATM cells from the ATM layer and delivering CS *Protocol Data Units* (PDU) to the appropriate MAC-CPS *Service Access Point* (SAP). The MAC-CPS creates its Protocol Control Information (i.e., MAC header in this case) and is responsible for the delivery of MAC *Service Data Units* (SDU) to its peer MAC-CPS according to the *Quality of Service* (QoS) requirements of a particular *Service Flow* (SF).

The ATM CS utilizes the services provided by the MAC-CPS and performs the following functions:

- accepting ATM cells from the ATM layer,
- classifying the ATM cells,
- (if required) processing the ATM cells based on the classification, and
- delivering the processed ATM cells, i.e., CS PDUs to the appropriate MAC-CPS SAP.

Figure 1 shows the scope of this specification. It includes two types of protocol information flows: a signaling connection shown by the dashed-line and a data path connection shown by the dotted-line.

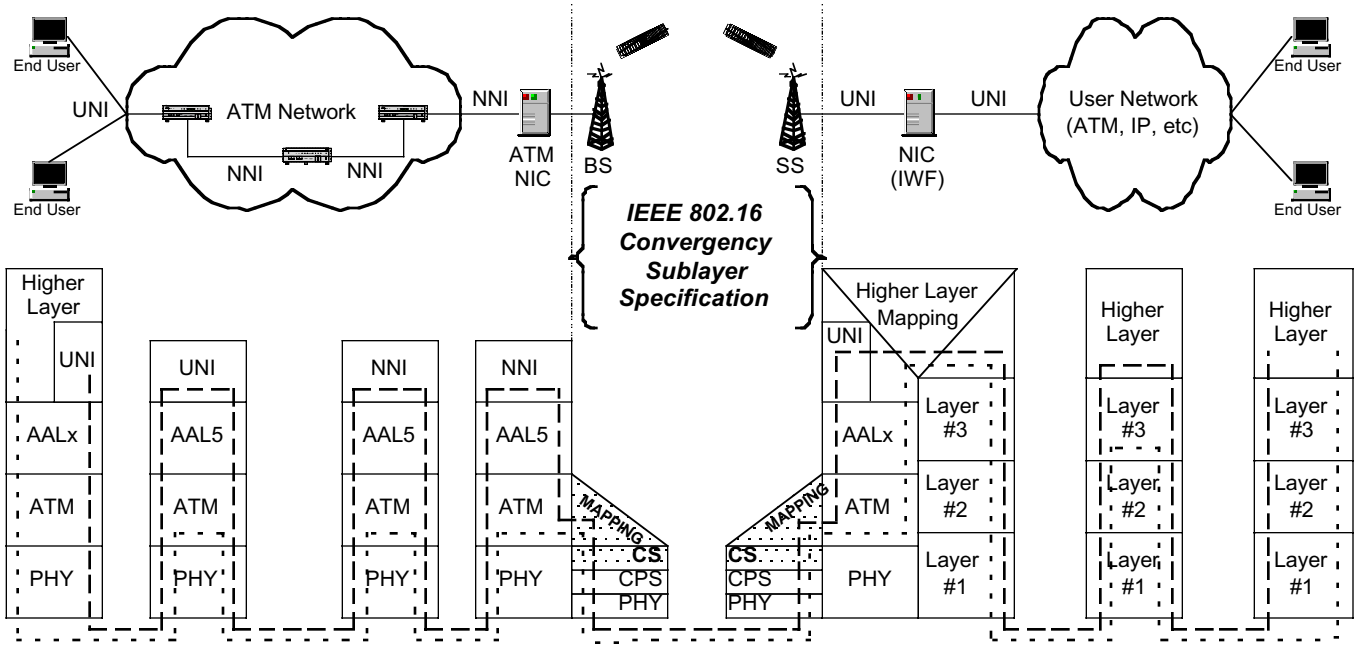

Figure 1: Scope of the ATM Convergence Sublayer Specification

The above figure assumes *Subscriber Stations* (SS) connecting to arbitrary types of user networks and a *Base Station* (BS) connecting to an ATM backhaul. Note that an ATM *Network Node Interface* (NNI) is implemented on the BS while an ATM *User to Network Interface* (UNI) is implemented on the SSs and that an *InterWorking Function* (IWF) is needed only if the SS is connecting to a user network other than an ATM network. Note also

that the type of user network that an SS is connecting to is implementation specific and that the protocol layer handling switching/routing of user data packets is network type dependent.

Figure 2 outlines the convergence operation defined in this document and its relationship with other protocol layers. As shown in Figure 2, the ATM layer generates ATM cells and forwards them to the ATM CS. If *Payload Header Suppression* (PHS) is turned on (*see* 6.3), ATM cell headers are suppressed. Information fields in the ATM cell headers that are required to reconstruct the headers at the other end are either mapped to the MAC PDU header or encapsulated in the MAC PDU payload. The figure also shows packing and concatenation (*see* 5.3) at the MAC-CPS and *physical* (PHY) layer.

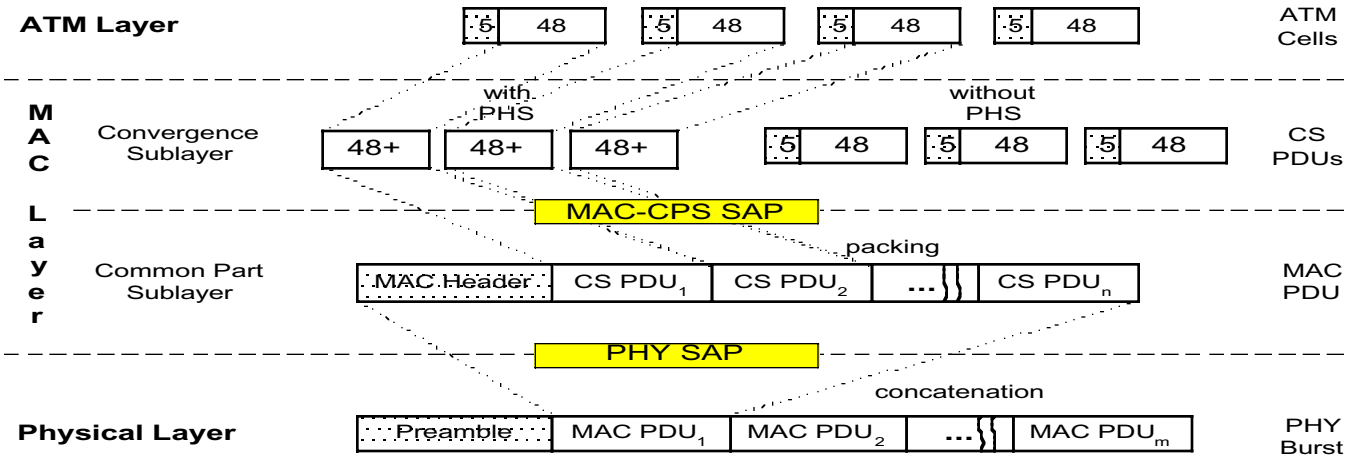

Figure 2: Protocol layer architecture for BWA supporting ATM network access

In addition to the specification, this document also identifies all necessary changes to the existing draft standard (*see* [IEEE00]) in order to support the specification defined in this document.

2. References

[ATM96a] ATM Forum, "Private Network-Network Interface Specification," Version 1.0, af-pnni-0055.000, March 1996.

[ATM96b] ATM Forum, "ATM User-Network Interface (UNI) Signaling Specification," Version 4.0, af-sig-0061.000, July 1996.

[ATM94] ATM Forum, "ATM User-Network Interface Specification," Version 3.1, af-uni-0010.002, September 1994.

[IEEE00] IEEE 802.16 , "Draft Standard for Air Interface for Fixed Broadband Wireless Access Systems," IEEE 802.16.1/D1-2000, December 2000.

[ISO94] ISO, "Information technology -- Open Systems Interconnection -- Basic Reference Model: The Basic Model," ISO/IEC 7498-1:1994.

Note that only the specific versions of the above referenced documents and the specific versions of the documents referenced within these documents are applicable to this specification.

3. Definitions

Base Station (BS): A generalized equipment set providing connectivity, management, and control of Subscriber Stations.

Connection Identifier (CID): A unidirectional, MAC layer address that identifies a connection connecting equivalent peers of SS's and BS's MAC layers.

Management Information Base (MIB): A structured set of objects, which are readable or modifiable via a network management protocol.

Payload Header Suppression (PHS): The process of suppressing the repetitive portion of payload headers at the sender and restoring the headers at the receiver.

Protocol Data Unit (PDU): A data unit generated by a particular protocol layer for its next lower layer.

Proxy Signaling. A capability allowing the Proxy Signaling Agent (PSA) to perform signaling for one or more users that do not support signaling.

Service Access Point (SAP): The point in a protocol stack where services of a lower layer are available to the next higher layer.

Service Data Unit (SDU): A data unit handed to a particular protocol layer from the layer above it.

Service Flow (SF): A Service Flow is a unidirectional flow of MAC Service Data Units on a connection that provides a particular Quality of Service.

Subscriber Station (SS): A generalized equipment set providing connectivity between subscriber equipment and a Base Station.

4. Abbreviations and Acronyms

AAL	ATM Adaptation Layer.
ATM	Asynchronous Transfer Mode.
BS	Base Station.
CCS	Common Channel Signaling.
CID	Connection Identifier.
CLP	Cell Loss Priority.
CPS	Common Part Sublayer.
CPT	CS Pass Through.
CS	Convergence Sublayer.
HEC	Header Error Check.
IWF	InterWorking Function.
MAC	Media Access Control.
MIB	Management Information Base.
NNI	Network Node Interface (or Network to Network Interface).
PCI	Protocol Control Information.
PDE	Packet Discard Eligibility.
PDU	Protocol Data Unit.
PHS	Payload Header Suppression.
PHY	Physical.
PM	Packed Mode.
PTI	Payload Type Indicator.
PVC	Permanent Virtual Connection.
QoS	Quality of Service.
SAP	Service Access Point.
SCM	Single-Cell Mode.
SDU	Service Data Unit.
SF	Service Flow.
SS	Subscriber Station.
SVC	Switched Virtual Connection.

TLV	Type Length Value.
UNI	User to Network Interface.
VC	Virtual Channel.
VCI	Virtual Channel Identifier.
VP	Virtual Path.
VPI	Virtual path Identifier.

5. Changes to the Existing Draft Standard

In order to support the specification defined in this document, certain aspects of the existing draft standard (*see* [IEEE00]) shall be modified. This section details all necessary changes and the rationales for the changes.

5.1. Additional Definitions and Acronyms

5.1.1. Additional definitions

1. On page 20, line 44 add the following definition:
   Payload Header Suppression (PHS): The process of suppressing the repetitive portion of payload headers at the sender and restoring the headers at the receiver.
2. On page 20, line 52 add the following definition:
   Protocol Data Unit (PDU): A data unit generated by a particular protocol layer for its next lower layer.
3. On page 20, line 53 add the following definition:
   Proxy Signaling. A capability allowing the Proxy Signaling Agent (PSA) to perform signaling for one or more users that do not support signaling.
4. On page 21, line 1 add the following definition:
   Service Data Unit (SDU): A data unit handed to a particular protocol layer from the layer above it.

Note that the definitions for PDU and SDU are per ISO/IEC 7498 standard (*see* [ISO94]).

5.1.2. Additional acronyms

1. On page 21, line 59 add the following acronym:
   CCS Common Channel Signaling.
2. On page 21, line 62 add the following acronyms:
   CLP Cell Loss Priority.
   CPT CS Pass Through.
3. On page 22, line 21 add the following acronym:
   HEC Header Error Check.
4. On page 22, line 28 add the following acronym:
   IWF InterWorking Function.
5. On page 22, line 42 add the following acronym:
   NNI Network Node Interface (or Network to Network Interface).
6. On page 22, line 43 add the following acronym:
   PCI Protocol Control Information.
7. On page 22, line 45 add the following acronym:
   PHS Payload Header Suppression.
8. On page 22, line 51 add the following acronyms:
   PTI Payload Type Indicator.
   PVC Permanent Virtual Connection.
9. On page 22, line 61 add the following acronym:
   SVC Switched Virtual Connection.
10. On page 23, line 13 add the following acronyms:
    UNI User to Network Interface.
    VC Virtual Channel.
    VCI Virtual Channel Identifier.
    VP Virtual Path.
    VPI Virtual path Identifier.

5.2. Changes to the MAC Common Part Sublayer Service Definition

5.2.1. Changes to existing MAC-CREATE-CONNECTION service primitives

In addition to the parameters currently specified for the MAC-CREATE-CONNECTION.*request* service primitive (*see* 6.1.1.1 of [IEEE00]), the parameters listed in Table 1 shall be included in the service primitive.

Table 1: Changes to MAC-CREATE-CONNECTION.*request* service primitive

Parameter	Values	Comment
Payload Header Suppression Indicator	0 – payload header suppression off 1 – payload header suppression on	Default is 1. Sub-mode of the Convergence Sublayer.
Length Indicator	0 – variable-length SDUs 1 – fixed-sized SDUs	Default is 0. Used by packing to determine the number of SDUs in the PDU.
SDU Length	0-255 – packing must be in this multiple of bytes	The only valid values for ATM CS are 48 and 50 when PHS is on, and 53 when PHS is off.

5.2.2. Changes to existing MAC-CHANGE-CONNECTION service primitives

In addition to the parameters currently specified for the MAC-CHANGE-CONNECTION.*request* service primitive (*see* 6.1.1.5 of [IEEE00]), the same parameters added to the MAC-CREATE-CONNECTION.*request* service primitive (*see* Table 1) shall be included in the service primitive.

5.2.3. Changes to existing MAC-DATA service primitives

In addition to the parameters currently specified for the MAC-DATA.*request* and MAC-DATA.*indication* service primitives (*see* 6.1.1.10 and 6.1.1.11 of [IEEE00]), the parameter listed in Table 2 shall be included in these service primitives:

Table 2: Changes to MAC-DATA service primitives

Parameter	Values	Comment
CS Pass Through (CPT)	3 bits, CS dependant	For the ATM CS, the PTI field of the ATM cell header maps to this field.

5.2.4. Additional MAC CPS service primitives

There is no new MAC CPS service primitive defined.

5.2.5. Specific changes to the existing document

The following changes to the existing draft standard (*see* [IEEE00]) shall be made:

11. On page 28, line 60 add the following lines:
    payload header suppression indicator,
    length indicator,
    SDU length,
12. On page 29, line 16 add the following paragraphs:
    The payload header suppression indicator specifies whether the SDUs on the Service Flow should have their headers suppressed.
    The length indicator specifies whether the SDUs on the Service Flow are fixed length or variable length.
    The SDU length specifies the length of the SDU for a fixed-length SDU Service Flow.
13. On page 34, line 38 add the following line:
    CS pass through,
14. On page 34, line 52 add the following paragraph:
    The CS pass through specifies the 3-bit information passed by the CS. It is to be placed in the CPT field of the MAC-CPS PDU header.
15. On page 35, line 29 add the following line:
    CS pass through,

5.3. Changes to the MAC Layer Protocol Architecture

5.3.1. Changes to the MAC PDU header

To allow better integration with CS, the following change to the MAC-CPS PDU header shall be made:

1. Use three (3) of the reserved bits for *CS Pass Through* (CPT) of information.

5.3.2. Specific changes to the existing document

The following changes to the existing draft standard (*see* [IEEE00]) shall be made:

1. On page 37, line 13 change the uplink MAC header format to include a new 3-bit field. Label the new field "CPT" and place the new field after the existing "PDE" field. Reduce the length of "Reserved" field from 6 bits to 3 bits.
2. On page 37, line 56 change the downlink MAC header format to include a new 3-bit field. Label the new field "CPT" and place the new field after the existing "PDE" field. Reduce the length of "Reserved" field from 6 bits to 3 bits.
3. On page 39, line 19 add the following new row to the table:

CPT	1	This field allows the Convergence Sublayer to pass service specific information to the MAC-CPS.

5.4. Packing, Fragmentation and/or Concatenation

Information contained in this section is informative. Functions described in this section shall be defined in the MAC-*Common Part Sublayer* (MAC-CPS) specification (*see* 6.2.1.3 and 6.2.1.4 of [IEEE00]). Details on *Payload Header Suppression* (PHS) are defined in 6.3.

5.4.1. Packed mode vs. single-cell mode

Packing refers to the process by which several SDUs are packed into one PDU payload in order to reduce the overhead due to *Protocol Control Information* (PCI), i.e., PDU headers and trailers. In *Packed Mode* (PM), one or more MAC-CPS SDUs, each of which contains a single ATM cell with or without PHS, are packed into one single MAC-CPS PDU. Note that packing can be done independent of PHS (i.e., with or without PHS).

In *Single-Cell Mode* (SCM), each MAC-CPS SDU occupies the entire MAC-CPS PDU payload. Note that PM and SCM are mutually exclusive and that authority to use either PM or SCM is provisioned during connection establishment.

5.4.2. Fragmentation

Fragmentation is the process by which a MAC SDU is divided into one or more MAC PDU payloads. This process is undertaken to allow efficient use of available bandwidth. The authority to fragment MAC SDUs is provisioned when the connection is created. Due to the small size of ATM cells, MAC SDUs carrying ATM cells in general SHOULD NOT be fragmented except the last MAC PDU of an uplink or downlink burst.

5.4.3. Concatenation

Concatenation is the process by which multiple MAC-CPS PDUs are concatenated into one single uplink or downlink burst. Since each MAC-CPS PDU is identified by a unique CID, the receiving MAC-CPS entity (at either a BS or SS) is able to reassemble one or multiple received PDUs to the original SDU and present the SDU to the correct instance of MAC-CPS SAP.

6. ATM Convergence Sublayer

This section defines the ATM *Convergence Sublayer* (CS) for interfacing ATM services to the MAC *Common Part Sublayer* (CPS). The ATM CS accepts ATM cells from the ATM layer, performs *Classification* and, if provisioned, *Payload Header Suppression* (PHS), and delivers CS PDUs to the appropriate MAC-CPS SAP.

6.1. Convergence Sublayer Service Definition

The ATM CS is specifically defined to support the convergence of higher-layer PDUs generated by ATM networks. Since ATM cell streams are generated according to ATM standards, no ATM CS service primitive is required.

6.2. Classification

An ATM connection, which is uniquely identified by a pair of values of *Virtual Path Identifier* (VPI) and *Virtual Channel Identifier* (VCI), may be either *Virtual Path* (VP) switched or *Virtual Channel* (VC) switched. In VP switched mode, all VCIs within one VPI are automatically mapped to that within another VPI; while in VC switched mode, input VPI/VCI values are individually mapped to output VPI/VCI values. Thus, when performing PHS, ATM CS must be able to differentiate these two types of connections and perform the suppression accordingly.

A classifier is a set of matching criteria applied to each ATM cell entering the ATM CS. It consists of some ATM cell matching criteria, such as VPI and VCI, and a reference to a Connection Identifier (CID). If an ATM cell matches the specified matching criteria, it is delivered to the MAC-CPS SAP for delivery on the connection identified by the CID.

6.2.1. Virtual path switched mode

For VP switched mode, the VPI field (12 bits for an NNI on a BS and 8 bits for a UNI on an SS connecting to an ATM user network) is mapped to the 16-bit CID for a MAC connection. Since the QoS and Category of service parameters for the connection are set at connection establishment, this mapping of VPI to CID guarantees the correct handling of the data by the MAC layer.

6.2.2. Virtual channel switched mode

For VC switched mode, the VPI and VCI fields (28 bits total for an NNI on a BS and 24 bits total for a UNI on an SS connecting to an ATM user network) are mapped to the 16-bit CID for the MAC connection on which it is transported. Obviously, the full range of VPI/VCI combinations (up to 2^{28} for NNI and 2^{24} for UNI) cannot be simultaneously supported in this mode. Since the QoS and Category of service parameters for the connection are set at connection establishment, this mapping of VPI and VCI to CID guarantees the correct handling of the data by the MAC layer.

6.3. Payload Header Suppression

In *Payload Header Suppression* (PHS), a repetitive portion of the payload headers (i.e., headers that are part of the PDU payload) of the SDUs is suppressed by the sending entity and restored by the receiving entity. On the downlink, the sending entity is the ATM CS on the BS and the receiving entity is the ATM CS on the SS. On the uplink, the sending entity is the ATM CS on the SS and the receiving entity is the ATM CS on the BS. To further save bandwidth, multiple ATM cells (with or without PHS) from the same ATM connection SHOULD be allowed to be packed within a single MAC PDU payload. Note that when PHS is turned off, no part of any ATM cell header including *Header Error Check* (HEC) field shall be suppressed. This provides an option for protecting the integrity of the cell header.

6.3.1. PHS for virtual path switched ATM connections

In VP switched mode, the VPI is mapped to a CID. This allows the disposal of the remainder of the ATM cell header except for the VCI, *Payload Type Indicator* (PTI), and *Cell Loss Priority* (CLP) fields. The VCI shall be encapsulated in the MAC PDU payload. The PTI field and the CLP bit shall be mapped to the *CS Pass Through* (CPT) field and the *Payload Discard Eligibility* (PDE) bit of the MAC-CPS PDU header respectively.

Figure 3 shows the structure of a MAC-CPS PDU containing a single VP-switched ATM cell with the cell header suppressed. Figure 4 shows the structure of multiple VP-switched ATM cells (i.e., packed mode) with the cell headers suppressed. Format of CS PDUs for VP-switched ATM connection is given in 6.4.1.

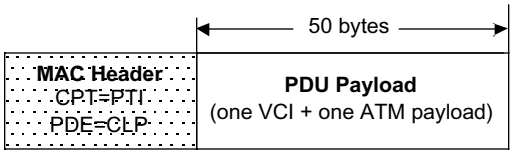

Figure 3: MAC-CPS PDU structure containing one single VP-switched ATM cell

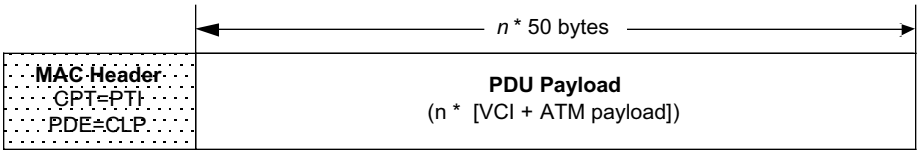

Figure 4: MAC-CPS PDU structure containing multiple VP-switched ATM cells

6.3.2. PHS for virtual channel switched ATM connections

In VC switched mode, the VPI/VCI combination is mapped to a CID. This allows the disposal of the remainder of the ATM cell header except for the PTI and CLP fields. The PTI field and the CLP bit shall be mapped to the CPT field and the PDE bit of the MAC-CPS PDU header respectively.

Figures 5 shows the structure of a MAC-CPS PDU containing a single VC-switched ATM cell with the cell header suppressed. Figure 6 shows the structure of multiple VC-switched ATM cells (i.e., packed mode) with the cell headers suppressed. Format of CS PDUs for VC-switched ATM connection is given in 6.4.1.

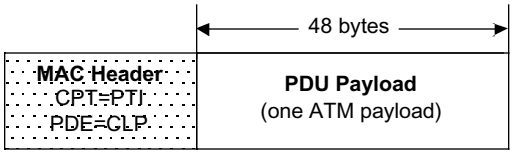

Figure 5: MAC-CPS PDU structure containing one single VC-switched ATM cell

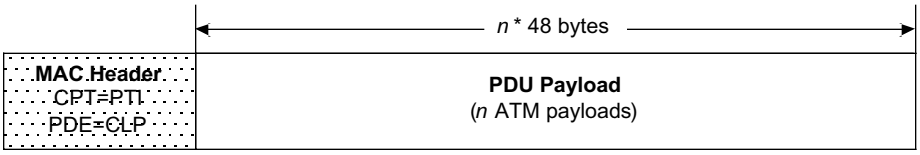

Figure 6: MAC-CPS PDU structure containing multiple VC-switched ATM cells

6.3.3. PHS for ATM cells with different EFCI bits

The second bit of the PTI field in the ATM cell header is the *Explicit Forward Congestion Indication* (EFCI) bit. EFCI bit may be used by ATM cells that carry user data (i.e., the first bit of the PTI field equals 0) to indicate congestion condition on the forward direction. With PHS, EFCI bit is mapped to the second bit of CPT. However, for the purpose of determining the value of the second bit of the CPT field of the MAC-CPS PDU header when packing option is turned on, the value shall be the result of applying a logical OR operation on all EFCI bits from all ATM cell headers contained in the MAC-CPS PDU. In other words, as long as at least one of the ATM cells contained in the PDU has its EFCI equals 1, the corresponding bit in CPT shall be set to 1. This

would allow ATM cells with different values of EFCI bit be packed into one MAC-CPS PDU (hence reduce MAC-CPS header overhead) and still indicating a congestion condition.

6.3.4. CPT field for PDUs containing AAL-5 packets

The last bit (or the rightmost bit) of the 3-bit PTI field of an ATM cell header is the AAL-5 indication bit. It identifies the last cell in a multi-cell AAL-5 packet. All other cells in the multi-cell AAL-5 packet have the indication bit set to 0.

In order for PHS to work correctly when restoring ATM cells corresponding to a single AAL-5 packet, the CPT field of a MAC-CPS PDU header shall apply only to the PTI of the last ATM cell in the MAC-CPS PDU payload, which can be either an intermediate cell or the last cell of the AAL-5 packet. The third bit (i.e., the last bit) of the PTI field of all other ATM cells in the multi-cell PDU is implied to be 0. This allows the last cell of an AAL-5 packet to be transmitted as part (and the last cell) of the same multi-cell PDU with other non-terminal AAL-5 cells. No cell may follow an AAL-5 last cell in a multi-cell PDU, but a multi-cell PDU is not required to end with an AAL-5 last cell. Otherwise, back-to-back AAL-5 packets will cause problem reassembling the packets correctly.

6.4. Data/Control Plane

6.4.1. PDU formats

There are three different PDU formats for (a) ATM connections with no PHS, (b) VP-switched ATM connections with PHS, and (c) VC-switched ATM connections with PHS. These formats are shown in Figures 7, 8 and 9 correspondingly. For case (a), the formats of SDU and PDU are the same. For case (b), the ATM header is suppressed and the 50-byte PDU payload includes 2-byte VCI and 48-byte ATM payload. For case (c), the ATM header is also suppressed and no additional information is encapsulated in the PDU payload. Note that there is no PDU header overhead for any one of these three formats.

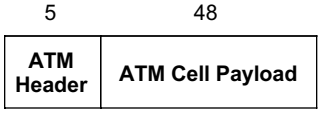

Figure 7: PDU format for ATM connections with no PHS

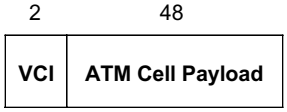

Figure 8: PDU format for VP-switched ATM connections with PHS

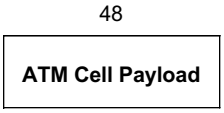

Figure 9: PDU format for VC-switched ATM connections with PHS

6.4.2. Signaling procedure

ATM interfaces support three types of connections, *Switched Virtual Connection* (SVC), *Permanent Virtual Connection* (PVC), and Soft Permanent Virtual Connection (soft PVC). SVCs are established and terminated dynamically on demand by the use of signaling across the UNIs. The word "permanent" signifies that the

connection is established administratively. Although both PVC and soft PVC are established administratively, PVCs are established by provisioning process and soft PVCs are established by the use of signaling.

ATM networks use *Common Channel Signaling* (CCS), where signaling messages are carried over a connection completely independent of user connections and where one signaling channel can carry signaling messages for a number of user connections. Per non-associated signaling defined in ATM UNI 4.0 (*see* [ATM96b]), by default, the signaling channel on VPI=0 controls all VPs on the same physical interface. In other words, except when the optional *Proxy Signaling* capability (see Annex 2 of [ATM96]) or when the optional *Virtual UNI* capability (see Annex 8 of [ATM96]) is used, the signaling channel is identified by VPI=0 and VCI=5. Note that this specification DOES NOT support *Associated Signaling* (specified in ATM UNI 3.1, [ATM94]), where VCI=5 of each VP is used as the signaling channel for all VCs on the same VP. In addition, this specification DOES NOT support either Proxy Signaling or Virtual UNI.

To establish a SVC, it is the responsibility of the calling party to initiate the signaling procedure by issuing the appropriate signaling messages. Both ends can establish or release the SVC. Details on how to use these signaling messages are available in [ATM96b].

To establish a soft PVC, the network management system provisions one end of the soft PVC with the address identifying the egress ATM interface of the ATM network. The calling end has the responsibility for establishing and releasing the connection. It is also the responsibility of the calling party (if necessary) to re-establish the connection in case of switching system or link failure.

During provisioning process, each SS joining the BWA system shall request a dedicated CID as the signaling connection corresponding to the CCS connection used by ATM networks. Any CID provisioned for this purpose shall not be dynamically changed or terminated. Each BWA system SHOULD provisions a set of CIDs for this purpose.

Figure 10 shows the end-to-end signaling process for a BWA system with ATM backhaul supporting some user network. The end-to-end signaling connection is shown by the dashed-line. The network interface at the BS shall implement the ATM NNI (*see* [ATM96a]) and the network interface at the SS shall implement the ATM UNI (*see* [ATM96b]).

On the downstream direction, the signaling starts at an "end-user" of the public ATM network that implements a public ATM UNI and ends at the SS that implements a private ATM UNI. The signaling may be mapped by the IWF and extended to the user network. On the upstream direction, the signaling starts at the private ATM UNI of the SS and ends at the public UNI of an "end-user." Again, the signaling may be originated at an "end-user" of the user data network and mapped by the IWF. Note that mapping of information units carried by the air link shall be limited to cell-level mapping only (*see* 6.2). Other mappings, if required by the user network, shall be handled by the IWF exclusively.

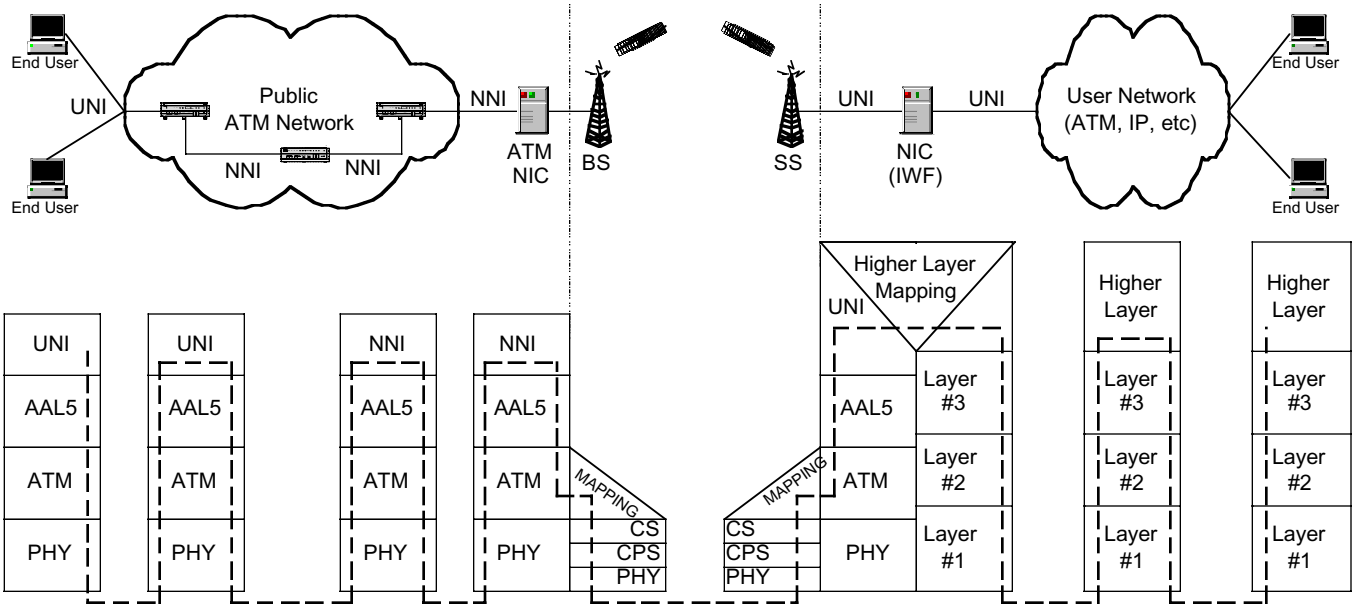

Figure 10: End-to-end signaling process for BWA with ATM backhaul

6.5. Management Plane

TBD.

7. Encodings

The following *Type Length Value* (TLV) encodings should be defined to support this specification.

7.1. Configuration File Related Encodings

7.1.1. Payload header suppression indicator

The value of this parameter specifies whether the SDUs on the Service Flow will have their headers suppressed. The default value is 1, i.e., PHS is on.

Type	Length	Value	Scope
[24/25].x	1	0 = PHS is off 1 = PHS is on default = 1	Configuration File REG-REQ REG-RSP DSx-REQ DSx-RSP DSx-ACK

7.1.2. Fixed-length vs. variable-length SDU indicator

The value of this parameter specifies whether the SDUs on the Service Flow will be fixed length or variable length. The parameter is used only if packing is on for the Service Flow. The default value is 0, i.e., variable-length SDUs.

Type	Length	Value	Scope
[24/25].y	1	0 = variable-length SDUs 1 = fixed-length SDUs default = 0	Configuration File REG-REQ REG-RSP DSx-REQ DSx-RSP DSx-ACK

7.1.3. SDU size

The value of this parameter specifies the length of the SDU for a fixed-length SDU Service Flow. This parameter is only used if packing is on and the Service Flow is indicated as carrying fixed –length SDUs. The default value is 48 bytes.

Type	Length	Value	Scope
[24/25].z	1	Number of bytes. default = 48	Configuration File REG-REQ REG-RSP DSx-REQ DSx-RSP DSx-ACK