



# APPENDIX **A**

## Cisco BTS 10200 Extensions for Pcps Objects

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Revised: September 10, 2008, OL-15975-04

This appendix provides the Cisco BTS 10200 Softswitch extensions for the Pcps objects. Use the [Cisco BTS 10200 Softswitch CLI Database](#) to specify what each field denotes in the comment section.

### PcpsCms

This section provides the extensions for the PcpsCms objects.

```
<?xml version="1.0" encoding="UTF-8"?>
<!--
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  id - Primary key. Call Agent ID (domain name). Service provider assigns, based on
  network configuration.
      VARCHAR(8): 1.8 ASCII characters. The form of the id is CAnnn or cannn
      where nnn = 000 to 999.

  cli - Foreign key: CLI Code table. The Common Language Location Identifier
  (CLLI) for the Call Agent.
      CHAR(11): 11 ASCII characters.

  mgw_monitoring_enabled - Media Gateway monitoring enabled/disabled indicator.
      CHAR(1): Y/N (Default = Y).

  host_ip_address - IP Address of the EMS machine servicing the response. Is only
  applicable in response object.

  host_id - configured EMS hostname of the EMS machine servicing the response. Is
  only applicable in response object.

  timestamp - Timestamp the reply from BTS EMS is done with processing the request.
  Is only applicable in response object.

  reply_string - Reply string as seen from BTS EMS notifying success or failure and
  details of failure if available. Is only applicable in response object.

  key - Security Key of the user session.

-->
<xs:schema targetNamespace="http://www.cisco.com/CmsExtension"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
```

```

xmlns="http://www.cisco.com/CmsExtension"
elementFormDefault="qualified">
  <xs:element name="id" type="xs:string"/>
  <xs:element name="cli" type="xs:string"/>
  <xs:element name="mgw_monitoring_enabled" type="xs:boolean"/>
  <xs:element name="host_ip_address" type="xs:string"/>
  <xs:element name="host_id" type="xs:string"/>
  <xs:element name="timestamp" type="xs:string"/>
  <xs:element name="reply_string" type="xs:string"/>
  <xs:element name="key" type="xs:string"/>
</xs:schema>

```

## PcspMta

This section provides the extensions for the PcspMta objects.

```

<?xml version="1.0" encoding="UTF-8"?>
<!--
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  id - Primary key. Media gateway identifier, assigned by the service provider.
      VARCHAR(32): 1-32 ASCII characters.

  type - Type of gateway.
      VARCHAR(3): 1-3 ASCII characters. Permitted values are:
          RGW-Residential gateway.
          TGW-Trunking gateway.

  aggr_id - ID of the aggregation device cable modem termination system (CMTS). This
  token is mandatory if supporting PacketCable DQoS; it is how the Cisco BTS10200
  Softswitch call management server (CMS) determines the CMTS to which a media
  terminal adapter (MTA) is attached, so it can issue gate control commands to the
  correct CMTS.
      VARCHAR(16): 1-16 ASCII characters.

  node - Defines the hybrid fiber coax (HFC) fiber node the MTA is homed to. The HFC
  fiber node sits between the CMTS and the MTA. Every MTA is assigned to a
  particular node-then one or more nodes are assigned to a given CMTS.
      VARCHAR(20): 1-20 ASCII characters.

  host_ip_address - IP Address of the EMS machine servicing the response. Is only
  applicable in response object.

  host_id - configured EMS hostname of the EMS machine servicing the response. Is
  only applicable in response object.

  timestamp - Timestamp the reply from BTS EMS is done with processing the request.
  Is only applicable in response object.

  reply_string - Reply string as seen from BTS EMS notifying success or failure and
  details of failure if available. Is only applicable in response object.

  key - Security Key of the user session.

-->
<xs:schema targetNamespace="http://www.cisco.com/MtaExtension"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns="http://www.cisco.com/MtaExtension"
elementFormDefault="qualified">
  <xs:element name="id" type="xs:string"/>

```

```

<xs:element name="aggr_id" type="xs:string"/>
<xs:element name="node" type="xs:string"/>
<xs:element name="type">
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:enumeration value="RGW"/>
      <xs:enumeration value="TGW"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="host_ip_address" type="xs:string"/>
<xs:element name="host_id" type="xs:string"/>
<xs:element name="timestamp" type="xs:string"/>
<xs:element name="reply_string" type="xs:string"/>
<xs:element name="key" type="xs:string"/>
</xs:schema>

```

## PccspService

This section provides the extensions for the PccspService objects.

```

<?xml version="1.0" encoding="UTF-8"?>
<!--
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```

sub\_profile\_id - Foreign key: Subscriber Profile table. Subscriber profile ID.  
 VARCHAR(16): 1-16 ASCII characters.

account\_id - Specifies a subscriber account ID for one or more subscribers. An account id is only for identification purposes. The account id is not associated with any feature grouping behavior during call processing, although it is included in a billing record.  
 VARCHAR(20): 1-20 ASCII characters.

address1 - Street name, apartment number.  
 VARCHAR(32): 1-32 ASCII characters.

address2 - Street name, apartment number.  
 VARCHAR(32): 1-32 ASCII characters.

aor\_id - Mandatory and permitted term-type = SIP. Foreign key: Address of Record table. The address of record id. Uses the domain name parser. Domain name portion of the AOR-ID must exist in the Serving Domain Name table.AOR =USER  
 +@+DOMAIN-NAME.  
 VARCHAR(64): 1-64 ASCII characters.

billing\_type Specifies the subscriber billing type.  
 VARCHAR(16): 1-16 ASCII characters (Default = NONE). Permitted values are:  
 FR1-Flat Rate Billing 1  
 FR2-Flat Rate Billing 2  
 MR1-Measured Rate Billing 1  
 MR2-Measured Rate Billing 2  
 NONE (Default)-Billing type is not used.

category - Subscriber category.  
 VARCHAR(15): 1-15 ASCII characters. Permitted values are:  
 INDIVIDUAL (Default)-Individual subscriber.  
 CTXG-Assigned to the main subscriber ID of a Centrex group.  
 CTXG-INDIVIDUAL-Assigned to a Centrex subscriber.

CTXG-MLHG-Assigned to a Centrex MLHG (for example, attendant).  
 CTXG-TG-Assigned to a Centrex trunk group.  
 IVR-Access DN for IVR.  
 MLHG-INDIVIDUAL- Subscriber within an MLHG.  
 MLHG-Main subscriber ID of an MLHG.  
 MLHG-PREF-INDIV-Main subscriber ID of a preferential hunt list.  
 PBX-Assigned to the main subscriber ID of a PBX.  
 RACF-Access DN for remote activation of call forwarding.

city - Subscriber's city.

VARCHAR(16): 1-16 ASCII characters.

cos\_restrict\_id - Foreign key: COS Restrict table. COS restriction ID.

VARCHAR(16): 1-16 ASCII characters.

country - Country of subscriber.

VARCHAR(16): 1-16 ASCII characters.

ctxg\_id - Foreign key: Centrex Group table. Same as ID in Centrex Group table.

VARCHAR(16): 1-16 ASCII characters.

cwt\_type - Call Waiting Tone type. For Multiple DN (MDN) feature, a different Call Waiting Tone Type can be assigned to each DN.

VARCHAR(8): WT1, WT2, WT3, WT4 (Default = WT1).

esrn - Emergency service routing number. The subscriber level ESRN is used if available, else the ESRN assigned to the subscriber profile is used.

VARCHAR(7): 1-7 numeric digits.

forced - Use to bypass rule checking during add or change operations. When used in a delete command, the Cisco BTS 10200 Softswitch deletes all the information associated with the subscriber from the Subscriber table as well as all associated tables such as the Subscriber Service Profile table, the Subscriber Feature Data table, and so forth.

CHAR(1): Y/N (Default = N).

grp - Specifies whether a subscriber is an individual or a group. Applies to Multiline Hunt or Centrex subscribers.

CHAR(1): Y/N (Default = N).

Y-Group

N-Individual

h323\_term\_id - Mandatory if term-type = H323. Foreign key: H.323 Termination table. The termination ID for an H.323 terminal.

VARCHAR(16): 1-16 ASCII characters.

immediate\_release - Specifies whether to apply the immediate release procedure when a calling party hangs up.

VARCHAR(1): Y/N (Default = N).

mac\_id - (EMS only) A MAC-ID is allowed only if term-type=sip. This token is case sensitive-enter in uppercase. Foreign key: MAC to Subscriber table. MAC-ID of SIP (IP) Phone. Specifies the MAC address of the subscriber's SIP phone from which services to control features are invoked.

VARCHAR(16): 1-16 ASCII characters.

mgw\_id - Mandatory and permitted if term-type = term. Foreign key: Media Gateway, Termination tables. Media Gateway ID. The mgw-id is used as a termination ID as well as a combined foreign key to the termination table.

VARCHAR(32): 1-32 ASCII characters.

mlgh\_id - Foreign key: Multiline Hunt Group (MLHG) table. Same as ID in Multiline Hunt Group table.

VARCHAR(16): 1-16 ASCII characters.

mlhg\_pref\_list\_id - Foreign key: MLGH Preference List table. Same as ID in MLGH Preference List table.

VARCHAR(16): 1-16 ASCII characters.

ohd\_timer - Off-hook Delay Timer. If an off-hook trigger is set, then the Cisco BTS 10200 Softswitch looks at the ohd-timer token and applies a dial-tone timer equal to ohd-timer. If a user dials any digit within this timer value, the remaining digits are collected as normal. If no digit is dialed before the ohd-timer expires, the Cisco BTS 10200 Softswitch performs off-hook trigger processing. Note Applies only if offhook-trigger-type=OHD.

INTEGER: 0, or 2-16 seconds (Default = 0). Note If 0 is provisioned, then the default value in the Call Agent Configuration table is used.

offhook\_trigger\_type - Indicate whether an off-hook Trigger applies to this subscriber.

VARCHAR(8): 1-8 ASCII characters (Default = NONE). Permitted values are:

OHD-Off-hook Delay trigger.

OHI-Off-hook Immediate trigger.

NONE (Default)-No Off-hook trigger. Note Only allowed if term-type=term.

policy\_id - Mandatory and permitted term-type = SIP. The route policy id.

VARCHAR(16): 1-16 ASCII characters.

privacy - Specifies how calling party information (Name, DN) is displayed to the called party.

CHAR(4). Permitted values are:

NONE (Default)-Name and number.

FULL-Do not display name or number.

NAME-Do not display name.

USER-Use user-provided privacy information. Applies only to SIP endpoints that can include privacy information. If information is not received for either name or number, then privacy is indicated as "unspecified." Note PRIVACY = USER is not valid if term-type = term | none.

privacy\_manager\_id - Foreign key: Application Server table. The privacy manager id.

VARCHAR(16): 1-16 ASCII characters.

qos\_id - Foreign key: QOS table. Specifies whether to use QOS index for codec selection.

CHAR(16): 1-16 ASCII characters.

sdt\_mwi - Specifies whether a stutter tone is provided as a Message Waiting Indication.

CHAR(1): Y / N (Default = Y).

Y-A stutter dial tone is provided to a user when the subscriber goes off-hook and subscriber has Message Waiting.

N-A stutter dial tone is not provided.

secure\_fqdn - (EMS Only) Permitted only if term-type=sip. Use to resolve an IP address and compare it with the IP address received from an endpoint during registration or during call setup (INVITE). A secure-fqdn is assigned to the AOR.

VARCHAR(64): 1-64 ASCII characters. Also provisioned in the AOR2SUB table.

Note This token is valid only if term-type=sip. If secure-fqdn is provisioned, the AOR token is required.

send\_bdn\_as\_cpn - Specifies whether to send the billing DN for all calls (EMG, LOCAL, ON-NET, OFF-NET) as the CPN in the outgoing setup messages. If a billing DN is not provisioned, the billing DN (present) or the DN1 of the main subscriber (for PBX/MLHG subscribers) is sent as the CPN in the outgoing setup message. If none of them are found, the DN1 is sent.

CHAR(1): Y/N (Default = N).  
 Y-Send the billing DN of a subscriber as a CPN in the outgoing setup message.  
 N-Send the DN1 of a subscriber as a CPN in the outgoing setup message.

send\_bdn\_for\_emg - Specifies whether to send the billing DN value of emergency calls for PBX over PRI, or CAS and ANALOG, subscribers as the CPN in the outgoing setup messages.  
 (1): Y/N (Default = N).  
 Y.Send the billing DN of the subscriber as a CPN in the outgoing setup message.  
 N.Send the DN1 of the subscriber as a CPN in the outgoing setup message.

state - State designation.  
 VARCHAR(16): 1-16 ASCII characters.

static\_contact\_host - Hostname portion of the contact id as in user@hostname.  
 VARCHAR(32): 1-32 ASCII characters.

static\_contact\_port - Port number if different from default SIP port number (5060).  
 INTEGER: 1-4 numeric characters (Default = 5060).

static\_contact\_user - User portion of the contact id as in user@hostname.  
 VARCHAR(32): 1-32 ASCII characters.

term\_id - Mandatory and permitted term-type = term. Unique key. Foreign key: Termination table. Termination ID. Required if term-type=term. The term-id is used as a termination ID as well as a combined foreign key to the termination table.  
 VARCHAR(32): 1-32 ASCII characters.

termination\_immediate\_rel - Specifies whether to release a call immediately when a called party releases a call.  
 CHAR(1): Y/N (Default = N).

term\_type - Specifies the termination type.  
 VARCHAR(5): 1-5 ASCII characters. Permitted values are:  
 TERM (Default)-MGCP termination  
 TG-Trunk group  
 ROUTE-Route  
 RG-Route guide (Not supported)  
 SIP-SIP termination  
 NONE-There is no termination associated with the subscriber.  
 H323-H.323 virtual termination

tgn\_id - (or tg) Mandatory and permitted term-type=tg. Foreign key: Trunk Group table. Trunk group ID. This field can also be provisioned using tg instead of tgn-id. The EMS looks up the tgn-id based on the trunk group and then provisions it.  
 INTEGER: 1-99999999.

tg - (or tgn\_id) Mandatory and permitted term-type=tg. Foreign key: Trunk Group table. Trunk group ID. This field can also be provisioned using tg instead of tgn-id. The EMS looks up the tgn-id based on the trunk group and then provisions it.  
 INTEGER: 1-99999999.

usage\_sens - Specifies if usage-sensitive features are allowed. Usage-sensitive features are not subscribed but are available for use. The subscribers are charged per usage. The following features are available as usage-sensitive:  
 - AR (automatic recall)  
 - AC (automatic callback)

- USTWC (three-way calling)  
 CHAR(1): Y/N (Default = Y).  
   Y-Usage-sensitive features are allowed.  
   N-Usage-sensitive features are not allowed.

vmwi - The Visual Message Waiting Indication. This indication is sent when a message waiting indicator (MWI) Notify is received from the voice-mail system.  
 CHAR(1): Y/N (Default = Y).

voice\_mail\_id - Foreign key: Application Server table. Specifies the default voice-mail id for all subscribers belonging to a subscriber profile.  
 VARCHAR(16): 1-16 ASCII characters.

zipcode Subscriber's zip code.  
 VARCHAR(10): 1-10 ASCII characters.

user\_type - Defines the type of user.  
 VARCHAR(16): 1.16 ASCII characters. Permitted values are:  
   IP (Default)  
   PHONE

host\_ip\_address - IP Address of the EMS machine servicing the response. Is only applicable in response object.

host\_id - configured EMS hostname of the EMS machine servicing the response. Is only applicable in response object.

timestamp - Timestamp the reply from BTS EMS is done with processing the request. Is only applicable in response object.

reply\_string - Reply string as seen from BTS EMS notifying success or failure and details of failure if available. Is only applicable in response object.

key - Security Key of the user session.

-->

```
<xs:schema targetNamespace="http://www.cisco.com/ServiceExtension"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns="http://www.cisco.com/ServiceExtension"
elementFormDefault="qualified">
  <xs:element name="account_id" type="xs:string"/>
  <xs:element name="address1" type="xs:string"/>
  <xs:element name="address2" type="xs:string"/>
  <xs:element name="aor_id" type="xs:string"/>
  <xs:element name="city" type="xs:string"/>
  <xs:element name="cos_restrict_id" type="xs:string"/>
  <xs:element name="country" type="xs:string"/>
  <xs:element name="ctxg_id" type="xs:string"/>
  <xs:element name="esrn" type="xs:int"/>
  <xs:element name="forced" type="xs:boolean"/>
  <xs:element name="grp" type="xs:boolean"/>
  <xs:element name="h323_term_id" type="xs:string"/>
  <xs:element name="immediate_release" type="xs:boolean"/>
  <xs:element name="mac_id" type="xs:string"/>
  <xs:element name="mgw_id" type="xs:string"/>
  <xs:element name="mlhg_id" type="xs:string"/>
  <xs:element name="mlhg_pref_list_id" type="xs:string"/>
  <xs:element name="policy_id" type="xs:string"/>
  <xs:element name="privacy_manager_id" type="xs:string"/>
  <xs:element name="qos_id" type="xs:string"/>
  <xs:element name="sdt_mwi" type="xs:boolean"/>
  <xs:element name="secure_fqdn" type="xs:string"/>
  <xs:element name="send_bdn_as_cpnr" type="xs:boolean"/>
  <xs:element name="send_bdn_for_emg" type="xs:boolean"/>
```

```

<xs:element name="state" type="xs:string"/>
<xs:element name="static_contact_host" type="xs:string"/>
<xs:element name="static_contact_port" type="xs:int"/>
<xs:element name="static_contact_user" type="xs:string"/>
<xs:element name="sub_profile_id" type="xs:string"/>
<xs:element name="term_id" type="xs:string"/>
<xs:element name="terminating_immediate_rel" type="xs:boolean"/>
<xs:element name="tg" type="xs:string"/>
<xs:element name="tgn_id" type="xs:int"/>
<xs:element name="usage_sens" type="xs:boolean"/>
<xs:element name="vmwi" type="xs:boolean"/>
<xs:element name="voice_mail_id" type="xs:string"/>
<xs:element name="zipcode" type="xs:string"/>
<xs:element name="billing_type">
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:enumeration value="FR1"/>
      <xs:enumeration value="FR2"/>
      <xs:enumeration value="MR1"/>
      <xs:enumeration value="MR2"/>
      <xs:enumeration value="NONE"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="category">
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:enumeration value="INDIVIDUAL"/>
      <xs:enumeration value="MLHG"/>
      <xs:enumeration value="MLHG_INDIVIDUAL"/>
      <xs:enumeration value="MLHG_PREF_INDIV"/>
      <xs:enumeration value="CTXG"/>
      <xs:enumeration value="CTXG_INDIVIDUAL"/>
      <xs:enumeration value="PBX"/>
      <xs:enumeration value="CTXG_TG"/>
      <xs:enumeration value="CTXG_MLHG"/>
      <xs:enumeration value="RACF"/>
      <xs:enumeration value="IVR"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="cwt_type">
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:enumeration value="WT1"/>
      <xs:enumeration value="WT2"/>
      <xs:enumeration value="WT3"/>
      <xs:enumeration value="WT4"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="offhook_trigger_type">
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:enumeration value="NONE"/>
      <xs:enumeration value="OHD"/>
      <xs:enumeration value="OHI"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="ohd_timer">
  <xs:simpleType>
    <xs:restriction base="xs:int">
      <xs:enumeration value="0"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>

```

```

        <xs:enumeration value="2"/>
        <xs:enumeration value="3"/>
        <xs:enumeration value="4"/>
        <xs:enumeration value="5"/>
        <xs:enumeration value="6"/>
        <xs:enumeration value="7"/>
        <xs:enumeration value="8"/>
        <xs:enumeration value="9"/>
        <xs:enumeration value="10"/>
        <xs:enumeration value="11"/>
        <xs:enumeration value="12"/>
        <xs:enumeration value="13"/>
        <xs:enumeration value="14"/>
        <xs:enumeration value="15"/>
        <xs:enumeration value="16"/>
    </xs:restriction>
</xs:simpleType>
</xs:element>
<xs:element name="privacy">
    <xs:simpleType>
        <xs:restriction base="xs:string">
            <xs:enumeration value="FULL"/>
            <xs:enumeration value="NAME"/>
            <xs:enumeration value="NONE"/>
            <xs:enumeration value="USER"/>
        </xs:restriction>
    </xs:simpleType>
</xs:element>
<xs:element name="term_type">
    <xs:simpleType>
        <xs:restriction base="xs:string">
            <xs:enumeration value="TERM"/>
            <xs:enumeration value="TG"/>
            <xs:enumeration value="ROUTE"/>
            <xs:enumeration value="RG"/>
            <xs:enumeration value="SIP"/>
            <xs:enumeration value="NONE"/>
            <xs:enumeration value="H323"/>
        </xs:restriction>
    </xs:simpleType>
</xs:element>
<xs:element name="user_type">
    <xs:simpleType>
        <xs:restriction base="xs:string">
            <xs:enumeration value="IP"/>
            <xs:enumeration value="PHONE"/>
        </xs:restriction>
    </xs:simpleType>
</xs:element>
<!--
ListOfServicePkg - a list of BTS Service Package IDs.
-->
<xs:element name="ListOfServicePkg">
    <xs:complexType>
        <xs:sequence>
            <xs:element name="pkgid" type="xs:string"
                minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>

```

```

</xs:element>
<xs:element name="host_ip_address" type="xs:string"/>
<xs:element name="host_id" type="xs:string"/>
<xs:element name="reply_string" type="xs:string"/>
<xs:element name="key" type="xs:string"/>
</xs:schema>

```

## PcsPEndpoint

This section provides the extensions for the PcsPEndpoint objects.

```

<?xml version="1.0" encoding="UTF-8"?>
<!--
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sub_id - Foreign key: Subscriber table. Subscriber ID of line termination: same as
the ID in the Subscriber table.
VARCHAR(30): 1-30 ASCII characters.
-->
<xs:schema targetNamespace="http://www.cisco.com/EndpointExtension"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns="http://www.cisco.com/EndpointExtension"
elementFormDefault="qualified">
  <xs:element name="sub_id" type="xs:string"/>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:enumeration value="LINE"/>
      <xs:enumeration value="TRUNK"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="host_ip_address" type="xs:string"/>
<xs:element name="host_id" type="xs:string"/>
<xs:element name="timestamp" type="xs:string"/>
<xs:element name="reply_string" type="xs:string"/>
<xs:element name="key" type="xs:string"/>
</xs:schema>

```

## PcsPCiscoBtsCli

These are no extensions for the PcsPCiscoBtsCli objects since the entire XmlEncoding string is request/response.