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| Re: | Contribution on comments to IEEE 802.16 g-05/008 |
| Abstract | This contribution describes the version configuration management procedure and service primitives that could be exchanged between the BS and the NCMS entities. |
| Purpose | Adoption |
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# Primitives for configuration management

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## 1. Introduction

Configuration management in wireless communication systems becomes ever more critical and complex due to increasing system complexity, higher performance requirements, and frequently required feature upgrades. This contribution proposes the generic configuration management primitives that can be used to define configuration management related procedures.

## 2. Summary of the Proposed Remedy

The following 3 primitives are defined to specify different configuration management procedures. The table contains the simple explanation of the primitives.

| Primitive | Direction | Primitive Contents |
|---|---|---|
| M_CM.command | NCMS → BS | Object identifier, Action Type, Attribute List |
| M_CM.confirmation | NCMS ← BS | Object identifier, Action type, Attribute List |
| M_CM.notification | NCMS ← BS | Object identifier, Attribute List |

## 3. Proposed Text

[*Insert section 14.5.2 as follow*]

### 14.5.2 Configuration Management

Configuration management is a principal and essential management function. It can be divided into: Capability Management, Basic RF Management, Basic MAC Management, Time Management, Version Management and so on.

#### 14.5.2.1 Generic procedure and primitives

##### 14.5.2.1.1 Generic Procedure

The Generic Procedures of configuration management are as follows:

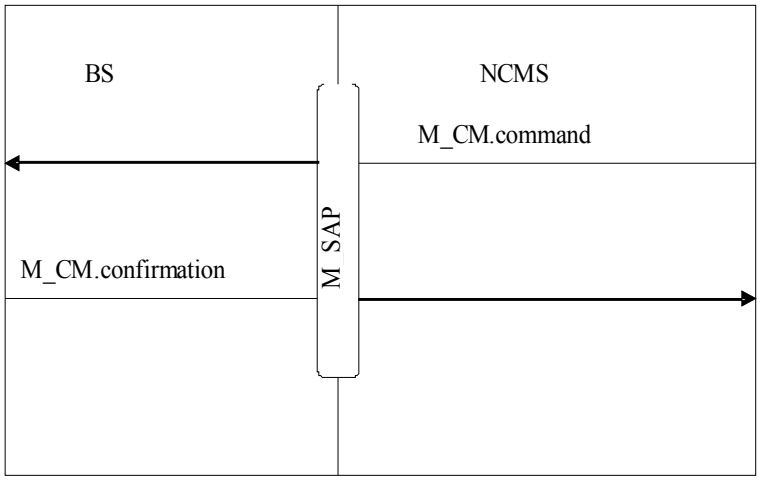


Figure 305 Procedure of configuration management initiated by NCMS

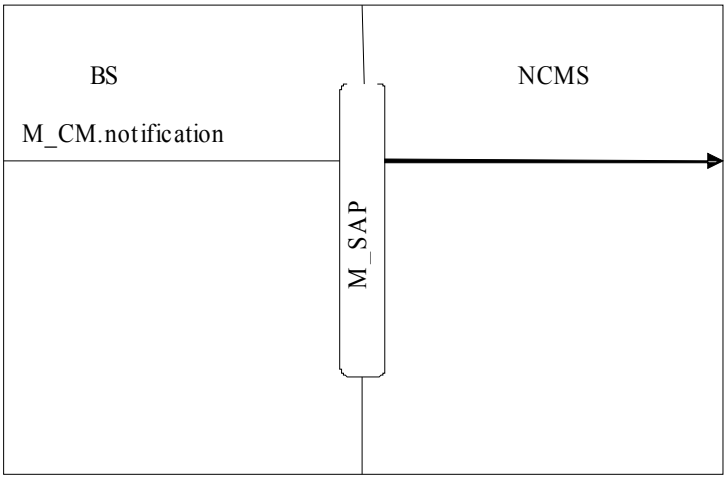


Figure 305a Procedure of configuration management initiated by BS

When NCMS needs to carry out configuration management, it can initiate the procedure with M_CM.command primitive with the specific action type and action information. When BS receives the primitive, it shall act according to the information contained in M_CM.command and response with M_CM.confirmation. The BS also may generate the M_CM.notification primitive to report the status of the configuration information to NCMS.

**14.5.2.1.2 Generic Service Primitives**

**14.5.2.1.2.1 M_CM.command**

**14.5.2.1.2.1.1 Function**

This primitive is originated by the NCMS to request the BS to execute the radio parameters configuration, capability configuration, RF resource configuration, Time configuration, or version configuration etc.

**14.5.2.1.2.1.2 Semantics of this primitive**

The parameters of this primitive are as follows:

M_**CM.command**
{
Object ID;
Action Type;

Attribute List;
}

**Object ID**
Object identifier.

**Action Type**
SET, GET, REMOVE, CANCEL, etc.

**Attribute List**
Contains the list of attributes on which the action shall be performed.

#### 14.5.2.1.2.1.3 When Generated

This primitive is originated by the NCMS when it needs to inform the BS to perform the specified configuration action.

#### 14.5.2.1.2.1.4 Effect of receipt

When the BS receives this primitive, it shall perform the specific functions as defined in the following table and reply to the NCMS with a M_CM.confirmation with current status.

Table 454 – Action Type and Action

| Action Type | Action |
|---|---|
| SET | Set configuration information based on attribute list |
| GET | Report configuration information to NCMS based on attribute list |
| REMOVE | Remove configuration parameters according to the attribute list. |
| CANCEL | Cancel the action indicated by the last M_CM.command |

### 14.5.2.1.2.2 M_CM.confirmation

#### 14.5.2.1.2.2.1 Function

This primitive is originated by the BS in response to M_CM.command from the NCMS.

#### 14.5.2.1.2.2.2 Semantics of this primitive

The parameters of this primitive are as follows:

**M_CM.confirmation**
{
Object ID
Action Type
Attribute List
}

**Object ID**
This is the Object identifier.

**Action Type:**
This shall be set as the Action Type in M_CM.command.

**Attribute List:**
It contains the list of attributes which are the action results.

#### 14.5.2.1. 2.2.3 When Generated

This primitive is originated by the BS in response to the M_CM.command.

#### 14.5.2.1.2.2.4 Effect of receipt

When the NCMS receives this primitive, it shall check the parameters in the attribute list, update the related information, and take any further action necessitated by the result.

#### 14.5.2.1.2.3 M_CM.notification

#### 14.5.2.1.2.3.1 Function

This primitive is originated by the BS to report its specific configuration information to NCMS.

#### 14.5.2.1.2.3.2 Semantics of this primitive

The parameters of this primitive are as follows:

**M_CM.notification**

```
{
    Object ID
            Attribute List
    }
```

**Object ID**
Object IDentifier.
**Attribute List**
It contains the specific configuration information which BS is reporting to NCMS.

#### 14.5.2.1.2.3.3 When generated

The BS needs to notify the NCMS of its specific configuration information.

#### 14.5.2.1.2.3.4 Effect of Receipt

When the NCMS receives this primitive, it shall check the attribute list in the primitive, update the related information, and take any further action necessitated by the result.

[*Insert section 14.5.2.6 on Page 21, line 54 as follow*]

#### 14.5.2.6 Version Configuration

Version configuration management is an essential and critical management function. It can be divided into; version information update, version verification, and version upload/download sub-procedures.

Figure 305b shows an example of using the generic primitives to describe the version configuration procedure.

Figure 305b Procedure of version configuration initiated by NCMS

Figure 305b describes the version configuration procedure initiated by the NCMS with M_CM.command. This procedure could be used to either obtain or set the version information at the BS. It can also be used to cancel the action of version update. After BS receives the primitive, it shall respond with M_CM.confirmation to inform NCMS the result of version configuration action.