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<b>Title</b>	<b>Performance Management Primitives for Performance Monitoring Procedures</b>	
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<b>Re:</b>	Contribution on comments to IEEE 802.16g-05/008	
<b>Abstract</b>	In this contribution, we propose to define some primitives for performance monitoring management.	
<b>Purpose</b>	Adoption	
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# Performance management primitives for Performance Monitoring Procedures

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## 1. Introduction

Network performance management plays a very important role in the overall network management system. It provides ways for the end user to collect performance related information on different levels of network components. These collected performance data can be used to fine tune the system performance.

This contribution, proposes the definition of some generic performance management primitives which can be used to define 802.16 system specific performance monitoring and other performance related procedures.

## 2. Summary of the Proposed Remedy

In this contribution, we have defined three primitives to support performance management between BS and NCMS which are described briefly in the following table.

Primitive	Direction	Primitive Contents
Performance_Monitor.indication	BS <- NCMS	Monitoring object ID, Performance monitoring configuration information
Performance_Monitor.confirmation	BS -> NCMS	Monitoring object ID, Confirmation of performance monitoring configuration information
Performance_Monitor.report	BS -> NCMS	Monitoring object ID, Performance report information

As shown in Figure 1, the procedure is as the following:

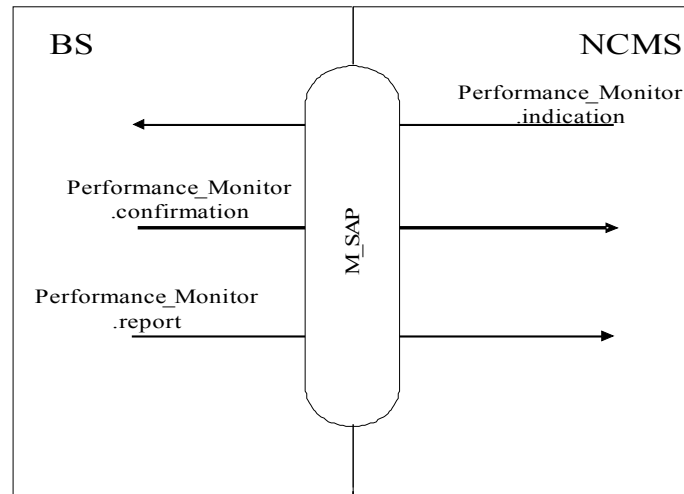


Figure 1 Example of primitive flow of Performance monitoring

### 3. Proposed Text Changes

[Insert section 14.5.4 as follow]

#### 14.5.4 Performance Management

##### 14.5.4.1 Performance Monitoring Procedure

The performance monitoring primitives are a set of primitives for supporting the performance monitoring procedure between BS and NCMS.

Figure XXX shows the example of performance monitoring procedure

Figure XXX Example of primitive flow of Performance monitoring

##### 14.5.4.1.1 Performance\_Monitor.indication

###### 14.5.4.1.1.1 Function

This primitive is used by NCMS to inform the BS of the performance monitoring configuration information, which includes the monitoring object identifier, performance monitoring metrics, and operation information.

#### 14.5.4.1.1.2 Semantics of the service primitives

The parameters of the primitive are as follows:

```

Performance_Monitor.indication
{
    Monitoring Object Number
    Monitoring Object List
    {
        Monitoring Object ID
        Monitoring Item Configuration List
        {
            Performance Item Name

            Action Mode
            Report Mode
        }
    }
}

```

#### **Number of Monitoring Objects**

The total number of objects that need to be monitored;

#### **Monitoring Object List**

It includes the object identifier information, Monitoring item configuration information, Action type and Report type;

#### **Monitoring Object ID**

This is the object identifier. It may be, for example, the BS\_ID, MS\_ID or SF\_ID etc. according to the performance monitor requirement;

#### **Monitoring Item Configuration List**

```

{
    Performance Item Name
        The performance monitoring item name
    Action Mode
        It defines the information of monitor action type: period or event
        triggered or stop the action.
    Report Mode
        It defines the information of report type: periodic or event triggered.
}

```

#### 14.5.4.1.1.3 When generated

This primitive is used by the NCMS when it needs to start or stop monitoring the performance of the system on per BS, SS/MS or specific call based performance data.

#### 14.5.4.1.1.3 Effect of receipt

The BS will configure the performance monitoring items according to the received primitive.

#### 14.5.4.1.2 Performance\_Monitor.confirmation

#### 14.5.4.1.2.1 Function

This primitive is used by BS to response to the NCMS of Performance\_Monitor.indication primitive, which confirms the proposed performance monitoring information by NCMS.

#### 14.5.4.1.2.2 Semantics of the service primitives

The parameters of the primitive are as follows:

```

Performance_Monitor.confirmation
{
    Number of Monitoring Objects
    Monitoring Object List
    {
        Monitoring Object ID
        Monitoring Item Configuration List
        {
            Performance Item Name
            Status
        }
    }
}

```

#### **Number of Monitoring Object**

The total number of objects that need to be monitored;

#### **Monitoring Object List**

It includes the object identifier information, Monitoring item configuration information, Action type and Report type

#### **Monitoring Object ID**

This is the object identifier. It may be, for example, the BS ID, MS ID or SF ID etc. according to the performance monitor requirement;

#### **Monitoring Item Configuration List**

```

{
Performance Item Name
    It is the name of performance monitoring item.

```

#### **Status**

```

    This indicates the result of configuration performance item, it can be
    SUCCESS or FAILURE
}

```

#### 14.5.4.1.2.3 When generated

This primitive is generated by the BS to confirm start or stop performance monitor when it receives the Performance.Indiction

#### 14.5.4.1.2.4 Effect of receipt

The NCMS checks the status in the primitive and continues next step accordingly.

#### 14.5.4.1.3 Performance\_Monitor.report

##### 14.5.4.1.3.1 Function

This primitive is used by BS to report the performance monitoring items information.

#### 14.5.4.1.3.2 Semantics of the service primitives

The parameters of the primitive are as follows:

```

Performance_Monitor.report
{
    Number of Reporting Objects
    Reporting Object List
    {
        Reporting Object ID
        Reporting Item List
        {
            Performance Item Name
            Performance Item Report Information
        }
    }
}

```

##### **Number of Reporting Objects**

The total number of objects that need to be monitored;

##### **Reporting Object List**

It includes the object identifier information, and report information;

##### **Reporting Object ID**

It is the object identifier and can be, for example, the MS ID, SF ID etc. according to the performance monitor requirement;

##### **Reporting Item List**

```

{
Performance reporting item information
Performance Item Name
    It is the name of the performance reporting item.
Performance Item Report Information
    The performance item report information. It could be the monitoring
    item value or other correspondent information
}

```

#### 14.5.4.1.3.3 When generated

This primitive is generated by the BS to report the required performance metrics based on the report mode in the former performance monitoring.

#### 14.5.4.1.3.3 Effect of receipt

The NCMS will take corresponding actions after receiving this report.