

## **Satellite Earth Stations and Systems (SES); Broadband Satellite Multimedia; Overview of BSM families**

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Reference

DTR/SES-00084

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## Foreword

This Technical Report (TR) has been produced by ETSI Technical Committee Satellite Earth Stations and Systems (SES).

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## Introduction

Broadband Satellite Multimedia (BSM) existing and planned systems [1] and [2] will provide consumers in corporate, public and home environments broadband access to the Internet and to multimedia applications.

Broadband Satellite Multimedia access systems are intended as high performance, quick to set up, competitive alternatives for wire-based access systems particularly in the geographical areas where it will not be economically viable to deploy, for instance, xDSL networks.

Broadband Satellite Multimedia systems inter-work with several core networks typically based on MPLS, ATM, or IP. They operate in the frequency spectrum allocated to Fixed Satellite Services (FSS).

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# 1 Scope

The present document has been produced by ETSI Technical Committee Satellite Earth stations and Systems (TC SES). It provides the definitions of the Family Names of Broadband Satellite Multimedia (BSM).

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## 2 References

For the purposes of this Technical Report (TR) the following references apply:

- [1] ETSI TR 101 374-1: "Satellite Earth Stations and Systems (SES); Broadband satellite multimedia; Part 1: Survey on standardization objectives".
- [2] ETSI TR 101 374-2: "Satellite Earth Stations and Systems (SES); Broadband satellite multimedia; Part 2: Scenario for standardization".
- [3] ETSI TR 101 984: "Satellite Earth Stations and Systems (SES); Broadband satellite multimedia; Services and Architectures".

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## 3 Definitions and abbreviations

### 3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

**Satellite Access Function (SAF):** logical function that provides interworking between the BSM bearer service and an End System, either directly or via a local network (e.g. a LAN)

**Satellite Gateway Function (SGF):** logical function that provides interworking between the BSM bearer services and a core network, either directly or via a transit network

### 3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

BSM	Broadband Satellite Multimedia
FSS	Fixed Satellite Services
SAF	Satellite Access Function
SGF	Satellite Gateway Function

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## 4 Families of BSM systems

### 4.1 Family names

To ensure that a Technical Specification can be re-used by various systems, it is required to classify them under families to maximize the commonalities between them. This will also facilitate, when appropriate, not only interoperability between these systems or between components of these systems within a same family but also between systems that are members of different families.

Different families are expected to refer to different satellite networks including both Star and Mesh network topologies and including regenerative and transparent satellites. Some may only provide forward and return channels over satellite (Satellite) when others may use an optional terrestrial return path (Hybrid). These main alternatives are summarized in the following table which also defines the 3-letter prefix (1-2-3) that will be used to designate these families.

**Table 1: Family names - definition of the prefix**

<b>PREFIX</b>	<b>MEANING</b>	<b>DEFINITION OF THE PREFIX</b>
1 - -	SATELLITE TYPE	<b>R</b> = Regenerative (OBP); or <b>T</b> = Transparent (bent pipe)
- 2 -	RETURN CHANNEL	<b>S</b> = Satellite; or <b>H</b> = Hybrid
- - 3	TOPOLOGY	<b>M</b> = Mesh; or <b>S</b> = Star

Recognizing that in a given family there may be several different implementations, a suffix letter (-x) will be used to differentiate them.

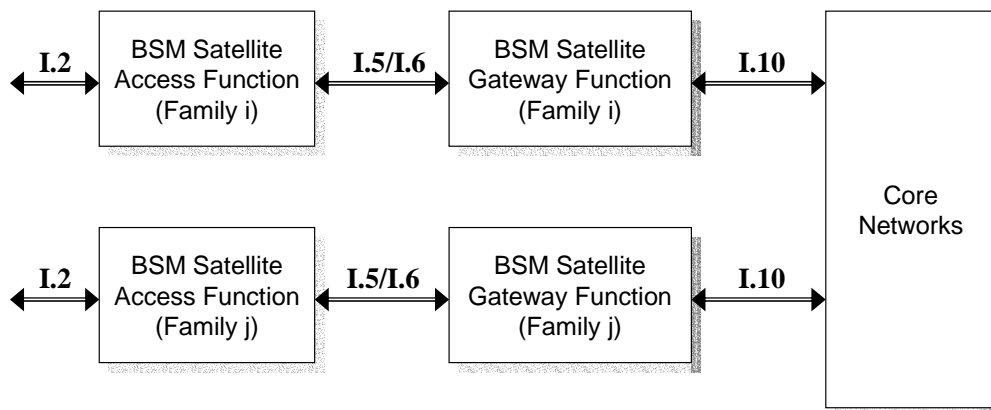
Therefore the following families are identified:

**Table 2: Family names - full designation**

<b>FAMILY CODES (see note)</b>	<b>DEFINITION</b>
THS-x	Transparent satellite Hybrid (1- way satellite channel) Optional terrestrial return path Star connectivity
TSS-x	Transparent satellite Satellite Return channel Star connectivity
TSM-x	Transparent satellite Satellite Return channel Mesh connectivity
RSM-x	Regenerative Satellite Satellite Return channel Mesh connectivity
NOTE: The suffix "x" is a letter from A to Z.	

## 4.2 Reference points

According to the reference model for BSM access systems defined in TR 101 984 [3] these common functional requirements are defined at the following interfaces:



**Figure 1: References points for common functional requirements**

These interfaces are defined in the BSM Services and Architectures [3] as follows:

- **I.2** is the BSM Network Interface; the interface between satellite access function and the customer premises networks;
- **I.5/I.6** are the Air interfaces;
- **I.10** is the BSM Gateway Interface; the interface between the satellite gateway function and terrestrial networks.

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## History

<b>Document history</b>		
V1.1.1	May 2003	Publication