You are cordially invited to attend the workshop on

Satcom integration with Next Generation Networks using IMS

which is organised by **the European Space Agency.**

This event will take place

on the 5th of November 2009
at the ESA Technical Research Centre (ESTEC),
Keplerlaan 1, in Noordwijk, The Netherlands
- Escape Dance Room -

and will start at 09:30 hrs and end at 17:30 hours.

While Next Generation Networks (NGN) were being deployed in terrestrial communication networks, ESA launched initiatives in order to define how satellite communication systems should integrate into these future multi-services all IP networks. NGN are packet-based networks able to provide services such as Voice over IP, IPTV, video-calling, universal personal telephone and video and other streaming services. They are able to make use of multiple broadband, QoS-enabled transport technologies and in which service-related functions are independent from underlying transport-related technologies. IP Multimedia System (IMS) forms a cornerstone of NGN as the main service delivery platform being deployed today. One ARTES-1 and two parallel ARTES-5 projects have developed the business models, service scenarios, technical architectures and prototype implementations in order to demonstrate the benefits to the space industry and prepare industrial developments. Use cases involving a wide range of applications (consumer broadband, interactive advertisement, emergency response networks, etc) and satellite systems (DVB-RCS and Astra2Connect) will be shown.

The workshop will cover final presentations of these recently completed activities, funded by ESA in the frame of the ARTES program:

- ARTES-1 'Multi-service IP next generation satellite networks' project, prime Thales Alenia Space Espana (E)
- ARTES-5 'Satcom Integration with IMS based Core Networks' project, project prime Siemens (A)
- ARTES-5 'Satcom Integration with IMS based Core Networks' project, project prime TNO (NL)

The workshop will also include an invited presentation from CNES and Thales Alenia Space France about two recent R&T activities on the topic.

1) 'Multi-service IP next generation satellite networks': Thales Alenia Space Espana (B), HyC (E), Advantech Satellite Networks (CA)

The general objectives of this project are:

- To define new service scenarios for consumer and professional users, based on two-way satellite systems for NGN multi-services delivery,

- To identify generic technical requirements concerning Service Level Agreement (SLA) management for the implementation of NGN multi-services over two-way satellite systems, then to derive from them specific requirements for DVB-RCS systems,
- Based on these specific requirements, to specify the needed mechanisms, process and protocols and to define an overall functional system architecture optimized for an automated, easy and dynamic SLA management in integrated satellite/terrestrial networks, to validate and assess the proposed functional system architecture and protocols, through simulation,
- To identify missing functionality or required modifications in the DVB-RCS standard in order to complement broadband satellite systems using this standard based solution.

2) ‘Satcom Integration with IMS based Core Networks’: TNO (NL), Castor (NL), Logica (NL)

The goal of this project is to assess the technical and business benefits of integrating the IMS in Satellite based core telecom networks, and to explore to what extend any recommendations coming from this study can be merged into standardisation activities to allow a broad and open adaptation across the industry.

The project is divided into four work areas:
- an architecture study
- a performance anc complexity trade-off
- the development of a demonstrator over a live satcom access network
- a standardisation study and implementation plan

3) ‘Satcom Integration with IMS based Core Networks’: Siemens (A), SES Astra (LUX), Nokia Siemens Networks (LUX)

The main objective of the project is to study and demonstrate that broadband Satcom networks can be seamlessly integrated within an IMS based network, both in terms of protocols and performance.

The team has investigated two uses cases (Video interactive advertisement and Voice Call Continiuity) to analyse the potential issues when integrating a Satcom system within an IMS framework. Simulations have been performed to assess the merits of different architectures supporting the selected use case. Quality of Service (QoS), IMS signalling traffic, and time to establish application sessions have been studied. Finally a demonstrator has been set up to exercice live the video interactive advertisment.

The team will present their findings highlighting topics that would deserve more attention either to address some standardisation issue and/or to ensure Satcom readiness for integration with IMS and more generally with NGN.

Agenda

Time	**Subject**	**Speaker**
09:30	Welcome	Stephane Combes, Roberto Donadio, Laurence Duquerroy, Stephane Pirio (ESA)
09:45	Multi-service IP next generation satellite networks	A. Yun (TAS-E)
11:30	*Coffee break*	
11:45	TAS-F/CNES projects	Emmanuel Dubois (CNES)
12:45	*Lunch break*	
13:45	Satcom Integration with IMS based Core Networks	Gjalt Loots (TNO)
15:30	*Coffee break*	
15:45	Satcom Integration with IMS based Core Networks	Marco Conte (Siemens)
17:30	*Event closure*	