

Sales & Services

Functional and Security Requirements

China Network Systems

D3 CAS (Phase 1)

[05/28/2008]

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Document Change History

Date	Version	Status ¹	Author	Modification
2008.03.25	0.1	Draft	Alex Qian	Initial draft
2008.03.28	0.2		Alex Qian	Minor corrections
2008.04.07	0.3		Alex Qian	Added requirement on “selection ID”
2008.05.28	0.4		Alex Qian	Removed all simulcrypt requirements

¹ Draft, Released or Abandoned

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1 Introduction

1.1 Purpose of the document

The **Functional and Security Requirements** document (FSR) formalizes in terms of functions, services and features the intended behavior of the solution being specified, to meet the customer's business needs.

It is approved by the customer as well as internally to ensure a joint understanding.

1.2 Purpose of the program

The objectives of this program (phase 1) are:

- To deploy NagraVision D3 CAS in the CNS digital headend, currently using NDS CAS
- CNS is planning an HDTV launch, all the HD services will be secured by the Nagra D3 CAS only. Currently 5 HD services are planned
- CNS will dual-carry signals protected by NagraVision D3 CAS & NDS CAS, with the objective of eventually completely turning off the NDS system (HE, STB, and smartcards). All the existing NDS subscribers will be converted to NagraVision using NagraVision STB & smartcards



2 Overview

2.1 Description of the current situation

Currently CNS digital platform consists of the following components:

- CAS: NDS
- MUX: Pegasus v3.0.12
- Scrambler: Krypton v2.0.4
- NMS: v3.0.28
- SMS: Cablessoft
- STB: ADB (ADB-ABQ-6H44) & QNS (QNS-1008). Note: These are SD boxes running NDS CAK.
- Middleware: NDS Core

2.2 Summary of customer's requirements

CNS will dual-carry signals protected by NagraVision D3 CAS & NDS CAS, with the objective of eventually completely turning off the NDS system (HE, STB, and smartcards). All the existing NDS subscribers will be converted to NagraVision using NagraVision STB & smartcards. Also, CNS's new HDTV services will only be secured by the NagraVision CAS.



3 Requirements

Notes: Requirement numbers shall not be modified; they can only be added or removed. Therefore, requirements are initially numbered 10 by 10, such that additional requirements can be inserted without changing the numbering of existing ones.

3.1 Functional and technical requirements

Req. #	Requirement
F10	Subscription feature is needed. This includes basic packages as well as a-la-carte
F20	Standard DVB SI tables (NIT, SDT, and EIT) are needed
F30	BAT is needed by the legacy boxes. This is how CNS separates the different remote headend networks.
F40	The SI tables should be bilingual, with English and Traditional Chinese. 7 days of EIT is needed
F50	The central headend distributes its signal to several remote headends, including another cable operator (TWT). These remote regions have different frequency plans as well as service lineup. There are no locally inserted services for phase 1. This needs to be verified???
F60	The CAS needs to be fully redundant (1+1)
F70	Monitoring system is needed to monitor the CAS
F80	The CAS shall support up to 1M active subscribers and 200 encrypted services (including 5 HD services), including the existing NDS subscribers. Currently there are around 50K NDS subscribers.
F90	EPG editor is needed. Currently CNS uses a text-based EPG editor provided by NDS
F100	For every service, there is a "selection ID". This ID displayed by the STB as the "channel number". For a given service, the selection ID could change depending on the bouquet it is in. This selection ID does not necessarily equal to the DVB service ID
F160	A non-redundant lab is required. It will only be used for testing purposes.



3.2 Decoder (STB) requirements

Req. #	Requirement
D10	All the legacy boxes must continue to work after simulcrypt is completed. However, there's no need for these boxes to run Nagra CA
D20	All new boxes will have ethernet return path and will run Nagra CA only
D30	There will be HD and SD boxes for the future deployment. These boxes will be provided by both HDT & Prime
D40	The middleware in the new boxes will be Alticast MHP

3.3 Schedule requirements

Req. #	Requirement
SCH10	CNS wants to launch their HD service by August, 08

