1. SCOPE

This document specifies the method and values for assignment of DVB network, transport and service identifiers carried in the program specific information / service information (PSI/SI) of free-to-air digital terrestrial and satellite television broadcasts in Australia

The references for the document are the ETSI standards EN 300 468 *Specification for Service Information in DVB systems* [1], TR 101 211 *Guidelines for implementation and usage of Service Information (SI)* [2], TR 101 162 *Allocation of Service Information (SI) codes for Digital Video Broadcasting (DVB) systems* [1] [3].

2. BACKGROUND (EN 300 468 and TR 101 211)

2.1 Within the DVB system Service Information (SI) is the Network Information Table. The Network Information Table (NIT) conveys information relating to the physical organisation of a given network and the characteristics of the network itself.

The Network Information Table (NIT) provides the relevant tuning information for digital television receivers (DTV). The NIT could be used during set-up procedures of the DTV. The NIT could also be used to signal changes of tuning information. DTVs may be able to store the NIT information in non-volatile memory in order to minimise the access time when switching between channels ("channel hopping").

2.2 The following rules apply to the NIT:

a) Transmission of the NIT is mandatory for the actual delivery system and shall be in PID 0x0010 with a table_id value of 0x40 to identify the stream as a DVB stream;

b) For Australian terrestrial transmissions, the NIT is mandatory as it carries in the second descriptor loop the logical_channel_descriptor to signal the viewer-friendly logical channel numbers (LCN) of the services carried in the transport stream. For more details on use of logical channels refer to Free TV Operational Practice OP-41 [4].

c) The NIT describing the actual delivery system is valid if and only if it contains applicable delivery system descriptors for the actual delivery system. This rule specifies the conditions under which the NIT contains valid information. At some transitions of broadcast delivery system boundaries, the NIT carried in a Transport Stream (TS) is allowed to describe an earlier network in the broadcast chain.

A different mechanism has to be selected by the terrestrial receiver to obtain the relevant tuning information for the actual delivery system. For terrestrial transmissions, the NIT must include a terrestrial_delivery_system_descriptor (tag 0x5A) which will include frequency information for the transmission. Receivers may use either this information for tuning or the information encoded into the transmission parameter signalling (TPS) bits in the DBPSK pilots of the COFDM transmission.

d) All sections of the NIT shall be transmitted at least every 10 seconds.

2.3 The SI uses two labels related to the concept of a delivery system, namely the network_id and the original_network_id.

[1] Values for service information codes are allocated by the DVB Project Office to members of the DVB Project. This Operational Practice has been developed with the approval of the DVB Project Office and allocated for use by terrestrial free-to-air broadcasting organisations in Australia.

2.4 The combination of original_network_id and transport_stream_id allow each Transport Stream to be uniquely identified. In addition, each service within a Transport Stream shall be uniquely identified by its service_id. A service can be uniquely referenced through the path:

o*riginal_network_id/transport_stream_id/service_id.*

Note: The network_id is not part of this search mechanism. Individual network_id values are assigned to each network, which serve as unique identification codes. The network_id may be regarded as a binding agent to associate DVB-SI table sections for a particular network service. The allocation of these codes may be found in TR 101 162 [3].

2.5 **DVB network_name_descriptor**

The network_name_descriptor (tag 0x40) provides a textual description of the network name. The descriptor is located in the first loop of the NIT tables.

There are two types of network_name_descriptor:

- **Network_name_descriptor** - this descriptor is used to transmit the name of a physical network, e.g. *"SEVEN Network", "NINE Network", "Network TEN"* etc. This descriptor shall be used exactly once in the first descriptor loop of the NIT sub tables.

- **Multilingual_network_name_descriptor** - this descriptor may be used to convey the name of the network in one or more languages. It may be included once in the first descriptor loop of the NIT. Inclusion of this descriptor is optional.

2.6 Frequency Lists

A frequency_list_descriptor (tag 0x62) may be included in the second descriptor loop of the NIT to identify other frequencies where the main signal is re-transmitted as the same transport stream (e.g. a local translator service fed off-air from the main transmitter).

2.7 Service Lists

A service_list_descriptor (tag 0x41) may be included in the second descriptor loop of the NIT to identify the services available in the transport stream.

2.8 **DVB Linkage Descriptor Guidelines**

A linkage descriptor located within the NIT, shall point to a service providing additional information on the network.

Service replacement can also be identified using the linkage_descriptor. The replacement service may be selected automatically by the receiver when the running status of the current service is set to *"not_running".*

In other words, if a service is "*not_running*" the viewer can be automatically redirected to another (related) service which is running, by the linkage descriptor (in the NIT tables) pointing to the related service.

In accordance with its syntax, the linkage descriptor uniquely identifies the related service by a combination of, "*original_network_id/ transport_stream_id/service_id."*

3. APPLICATION

3.1 Original_network_id

Original_network_id values are a scarce commodity, hence DVB usually assign one unique value of original_network_id for each network operator in a country.

The tables in TR 101 162 [3] show the values assigned by DVB. There are two (2) different types of assignments. According to the rules in the current version of TR 101 162 [3], the values of original_network_id are assigned by DVB, where the service(s) are broadcast without regard to geographic boundaries, i.e. international broadcast (satellite) coverage.

Given that more than one network in Australia transmits broadcast services via satellite which may be received internationally, to operate within the rules of TR 101 162 [3], DVB have allocated a block of 16 original_network_ids for Australia providing for unique values.

Table 1 lists the original_network_id assignments for Australia:

Table 1. Original_network_id values allocated to Australia

Original_network_id	Description	Operator/Broadcaster
0x2024	Australian DTTB Reference Transport Stream	Free TV Australia
0x1010	ABC	Australian Broadcasting Corporation
0x1011	SBS	SBS Australia
0x1012	Nine Network Australia	Nine Network Australia
0x1013	Seven Network Australia	Seven Network Limited
0x1014	Network TEN Australia	Network TEN Limited
0x1015	WIN Television Australia	WIN Television Pty Ltd
0x1016	Prime Television Australia	Prime Television Limited
0x1017	Southern Cross Broadcasting Australia	Southern Cross Broadcasting (Australia) Limited
0x1018	Reserved for Australian broadcasters	Reserved for Australian broadcasters
0x1019	NBN Australia	NBN Limited
0x101A	Imparja Television Australia	Imparja Television Australia
0x101B	West Digital	West Digital
0x101C	Reserved for Australian broadcasters	Miscellaneous Multiplex Operator 1
0x101D	Reserved for Australian broadcasters	Miscellaneous Multiplex Operator 2
0x101E	Reserved for Australian broadcasters	Reserved for Australian broadcasters
0x101F	Reserved for Australian broadcasters	Reserved for Australian broadcasters

3.2 Network_id

Network_id values are a scarce resource and their registration is under the responsibility of the DVB Project Office. Application of multiple network_ids is subject to exhaustive verification.

DVB allocates a block of 256 network_ids for use on a country by country basis. They are allocated on a world region geographical basis such that no conflict of network_ids occurs across international boundaries.

Table 2 lists the range of re-useable values of network_id assigned to Australia. In a purely terrestrial application, bounded by geographical constraints, these values may be used for either network_id or original_network_id, or both, as appropriate. These values must not be used as original_network_ids where the services may be received internationally i.e. via a satellite service.

Table 2. Network_id values allocated to Australia

Network_id	Description	Network Type	Country code(s) of validity
0x3201 – 0x3300	Australian Digital Terrestrial Television	Terrestrial	Australia
TBD	Free-to-air television	Satellite	International

3.3 Application of Network_ids

The following tables illustrate a method of allocating the re-useable network_ids as either network_id or original_network_id assignments (or both, as appropriate) for terrestrial services in Australia.

These are allocated by national networks, capital city stations, state regional networks, and up to seven (7) regional feeds within each state (or part thereof), for each network.

The methodology is based upon the following:

(i) Requirement for the efficient re-use of the 256 network_id values by re-using regional feed values for each network in each state.

(ii) By careful management of the regions within each state, overlaps of network_ids are avoided from adjoining states e.g. the regional network_ids for NSW should not overlap the same regional network_ids for Victoria or Queensland or South Australia.

(iii) The service and coverage areas of each region are well defined by each broadcaster.

(iv) The use of the network_id allocations for original_network_id is required in the case of the network programme origin centres, e.g. the network_ids can also be original_network_ids at the following layers

National level e.g. ABC, SBS, NINE, SEVEN, TEN, WIN, PRIME, SCB and the remote area broadcasters.

State level e.g. ABC, SBS, WIN, PRIME, SCB

or by state capital city,

e.g. Sydney, Melbourne, Brisbane, Perth and Adelaide,

and state regional network

e.g. in New South Wales WIN-NSW, PRIME-NSW, TEN-NSW, and for Victoria WIN-VIC, PRIME-VIC, TEN-VIC etc.

Region level (regional feeds within each state)

There should be no requirement for the network_id values to be used as original_network_ids at the regional feed layer, since no substantial programmes actually originate at this layer.

However, if this is ever necessary, it is technically possible, provided there is no overlap of competing services with same values of original_network_id and network_id, i.e.; the defined regions in NSW do not overlap those in other states.

Overlap Areas

A service can be uniquely referenced through the path;

original_network_id/transport_stream_id/service_id.

Original_network_id and network_id assignments shall be managed so that duplication of original_network_id values shall not occur between services in coverage overlap areas.

Where coverage overlap occurs e.g. Nine Network and Nine Network Affiliate carrying the same (or separate) program, duplication will be avoided by the insertion of an original_network_id value assigned to the Nine Network Affiliate (refer to Table 9).

The unique assignment of the Affiliate's Transport Stream will be further identified by use of the Affiliate's assignment of transport_stream_id and service_id (refer Tables 8 and 9).

Table 3. Summary Table of Australian Network _id assignments

(These values may be used for either network_id or original_network_id, or both, as appropriate.)

Network_id value range	Assignment
0x3201 - 0x3210	Networks (16)
	Total Network reservations 16
0x3211 – 0x321A	Sydney Stations (10)
0x321B - 0x3224	Melbourne Stations(10)
0x3225 - 0x322E	Brisbane Stations (10)
0x322F - 0x3238	Adelaide Stations (10)
0x3239 - 0x3242	Perth Stations (10)
0x3243 - 0x3250	Reserved for future use (14)
	Total Capital City reservations 64
0x3251 - 0x3260	ABC Regional (16)
0x3261 - 0x3270	SBS Regional (16)
0x3271 - 0x3280	Nine Affiliates/Regionals[2] (16)
0x3281 - 0x3290	Seven Affiliates/Regionals[3] (16)
0x3291 - 0x32A0	TEN Affiliates/Regionals[4] (16)
0x32A1 - 0x32B0	Independent Regionals[5] (16)
0x32B1 - 0x32C0	Reserved for future use (16)
0x32C1 - 0x32D0	Reserved for future use (16)
0x32D1 - 0x32E0	Reserved for future use (16)
	Total regional reservations 144
0x32E1 - 0x32F0	Reserved for future use (16)
0x32F1 - 0x3300	Reserved for future use (16)
	Total future reservations 94
	TOTAL RESERVATIONS 256

[2] WIN, NBN, NTD, Southern Cross – Spencer Gulf
[3] Seven Qld, Prime, Southern Cross Television –Tasmania, Darwin, Southern Cross – Spencer Gulf
[4] Southern Cross, Southern Cross –Qld, NSW, Vic, Spencer Gulf, Darwin
[5] Independent Regionals are required to consult with Free TV Australia regarding the assignment and allocation of values for network_ids.

Table 4. Australian Network _id assignments by Networks.
(These values may be used for either network_id or original_network_id, or both, as appropriate.)

Network_id value range	Terrestrial Networks (16)
0x3201- 0x3210	Used as terrestrial Network_id and/or Original_network_id
0x3201	ABC
0x3202	SBS
0x3203	NINE
0x3204	SEVEN
0x3205	TEN
0x3206 - 0x3209	Reserved for future use
0x320A	Nine Network Affiliate / Regionals
0x320B	Seven Network Affiliate / Regionals
0x320C	TEN Network Affiliate / Regionals
0x320D	West Digital
0x320E	Imparja (all states)
0x320F	Southern Cross (all states)
0x3210	Reserved for future use
	Total Network reservations 16

Table 5. Australian Network _id assignments by Capital City
(These values may be used for either network_id or original_network_id, or both, as appropriate.)

Australian Network_id assignments											
Assignment Range (0x3211 - 0x3250) Capital City Stations (64)											
Network_id and/or Original_network_id											
Network_id Assignment Range											
National	**State**	**Capital City**									
		Sydney (10)		**Melbourne (10)**		**Brisbane (10)**		**Adelaide (10)**		**Perth (10)**	
		0x3211 - 0x321A	**Station**	**0x321B - 0x3224**	**Station**	**0x3225 - 0x322E**	**Station**	**0x322F - 0x3238**	**Station**	**0x3239 - 0x3242**	**Station**
0x3201	0x3252	0x3211	ABN-12	0x321B	ABV-12	0x3225	ABQ-12	0x322F	ABS-12	0x3239	ABW-12
0x3202	0x3262	0x3212	SBS-34	0x321C	SBS-29	0x3226	SBS-36	0x3230	SBS-36	0x323A	SBS-36
0x3203	n/a	0x3213	TCN-8	0x321D	GTV-8	0x3227	QTQ-8	0x3231	NWS-8	0x323B	STW-8
0x3204	n/a	0x3214	ATN-6	0x321E	HSV-6	0x3228	BTQ-6	0x3232	SAS-6	0x323C	TVW-6
0x3205	n/a	0x3215	TEN-11	0x321F	ATV-11	0x3229	TVQ-11	0x3233	ADS-11	0x323D	NEW-11
n/a	n/a	0x3216	Miscellaneous Multiplex	0x3220	Miscellaneous Multiplex	0x322A	Miscellaneous Multiplex	0x3234	Miscellaneous Multiplex	0x323E	Miscellaneous Multiplex
		0x3217 – 321A	Reserved for future use (4)	0x3221 – 0x3224	Reserved for future use (4)	0x322B – 0x322E	Reserved for future use (4)	0x3235 – 0x3238	Reserved for future use (4)	0x323F – 0x3242	Reserved for future use (4)
Note: Canberra included in Southern NSW Regionals. Hobart included in TAS Regionals. Darwin included in NT Regionals.				**0x3243 - 0x3250**	Reserved for other cities(14)			**Total Capital City reservations 64**			

Table 6. Australian Network _id assignments by State and Region
(These values may be used for either network_id or original_network_id, or both, as appropriate.)

Australian Network_id assignments		
Assignment Range		
0x3201 - 0x3210	Regional Networks (144)	
0x3251 - 0x3260	ABC Regional assignments (16)	
ABC Network_id and/or Original_network_id	ABC State Network	
ABC National id	**ABC State ids**	**State Region**
0x3201	0x3251	ABC-Southern NSW
	0x3252	ABC-Northern NSW
	0x3253	ABC-VIC
	0x3254	ABC-QLD
	0x3255	ABC-SA
	0x3256	ABC-WA
	0x3257	ABC-TAS
	0x3258	ABC-NT
	0x3259	ABC-user defined
ABC Regional Network_id		
0x325A - 0x3260	ABC Regional feeds R1 – R7 (all states) (7)	
Allocations for other networks (below) follow the same format		
SBS National id	**SBS State**	**SBS Region**
0x3202	0x3261 - 0x3269	SBS State assignments (9)
	0x326A - 0x3270	SBS Regional feeds R1 - R7 (all states) (7)
Nine Affiliate National id	**Nine Affiliate State**	**Nine Affiliate/Regional**
0x320A	0x3271 - 0x3279	Nine State assignments (9)
	0x327A - 0x3280	Nine Regional feeds R1 - R7 (all states) (7)
Seven Affiliate National id	**Seven Affiliate State**	**Seven Affiliate/Regional**
0x320B	0x3281 - 0x3289	Seven State assignments (9)
	0x328A - 0x3290	Seven Regional feeds R1 - R7(all states) (7)
TEN Affiliate National id	**TEN Affiliate State**	**TEN Affiliate/Regional**
0x320C	0x3291 - 0x3299	TEN State assignments (9)
	0x329A - 0x32A0	TEN Regional feeds R1 - R7 (all states) (7)
Independent National id	**Independent State**	**Independent-Regional**
0x320D	0x32A1 - 0x32A9	Independent Regional State assignments (9)
	0x32AA - 0x32B0	Independent Regional feeds R1 - R7 (all states) (7)
0x32B1 - 0x32C0	Reserved for future use (16)	
0x32C1 - 0x32D0	Reserved for future use (16)	
0x32D1 - 0x32E0	Reserved for future use (16)	
	Total Regional reservations 144	

Table 7. Example of Australian Network _id assignments for Regional broadcasting stations

(These values may be used for either network_id or original_network_id, or both, as appropriate.)

ONID	NID	Sthn NSW / ACT (7)		Nthn NSW / ACT (7)		Victoria (7)		Queensland (7)	
		Regional Feed Range	Station	Regional Feed Range	Station	Regional Feed Range	Station	Regional Feed Range	Station
0x1010	0x3201	0x325A – 0x3260	ABC Regional	0x325A – 0x3260	ABC Regional	0x325A – 0x3260	ABC Regional	0x325A – 0x3260	ABC Regional
0x1011	0x3202	0x326A – 0x3270	SBS Regional	0x326A – 0x3270	SBS Regional	0x326A – 0x3270	SBS Regional	0x326A – 0x3270	SBS Regional
0x1015	0x320A	0x327A – 0x3280	WIN	n/a	WIN	0x327A – 0x3280	WIN	0x327A – 0x3280	WIN
0x1016	0x320B	0x328A – 0x3290	Prime	0x328A – 0x3290	Prime	0x328A – 0x3290	Prime	0x328A – 0x3290	Prime
0x1017	0x320C	0x329A – 0x32A0	Southern Cross	0x329A – 0x32A0	Southern Cross	0x329A – 0x32A0	Southern Cross	0x329A – 0x32A0	Southern Cross
0x1019	0x320A	n/a	n/a	0x327A – 0x3280	NBN		n/a		n/a
	0x320D		Independent		Independent		Independent		Independent

ONID	NID	South Australia (7)		Tasmania (7)		Northern Territory (7)			
		Regional Feed Range	Station	Regional Feed Range	Station	Regional Feed Range	Station		
0x1010	0x3201	0x325A – 0x3260	ABC Regional	0x325A – 0x3260	ABC Regional	0x325A – 0x3260	ABC Regional		
0x1011	0x3202	0x326A – 0x3270	SBS Regional	0x326A – 0x3270	SBS Regional	0x326A – 0x3270	SBS Regional		
0x1015	0x320A	0x327A – 0x3280	WIN	0x327A – 0x3280	WIN	0x327A – 0x3280	WIN		
0x1016	0x320B	0x328A – 0x3290	Prime	0x328A – 0x3290	Prime	0x328A – 0x3290	Prime		
0x1017	0x320F	0x329A – 0x32A0	Southern Cross	0x329A – 0x32A0	Southern Cross	0x329A – 0x32A0	Southern Cross		
	0x320D		Independent		Independent		Independent		

3.4 Transport Stream Identification

A Transport Stream can be uniquely referenced through the path:

original_network_id/transport_stream_id.

The network_id, thus, is not part of this path. In addition, each transport_stream_id shall be unique within each original_network_id.

Table 8 list the transport_stream_id assignments for Australian free to air terrestrial and satellite television broadcasts:

Table 8. Australian Transport_stream_id Assignments

Transport_stream_id value range	Assignment
0x0000 – 0x00FF	Reserved (in ad hoc use)
0x0100 – 0x01FF	Reserved (in ad hoc use)
0x0200 – 0x02FF	ABC Transport Streams
0x0300 – 0x03FF	SBS Transport Streams
0x0400 – 0x04FF	NINE Network Transport Streams
0x0500 – 0x05FF	SEVEN Network Transport Streams
0x0600 – 0x06FF	TEN Network Transport Streams
0x0700 – 0x07FF	Nine Affiliate / Regional Transport Streams
0x0800 – 0x08FF	TEN Affiliate / Regional Transport Streams
0x0900 – 0x09FF	Seven Affiliate / Network Transport Streams
0x0A00 – 0x0AFF	Independent Regional Network Transport Streams including West Digital, Spencer Gulf Telecasters
0x0B00 – 0x0BFF	Independent Regional Network Transport Streams
0x0C00 – 0x0CFF	ABC Regional Network Transport Streams
0x0D00 – 0x0DFF	SBS Regional Network Transport Streams
0x0E00 – 0x0EFF	Miscellaneous Multiplex Transport Streams
0x0F00 – 0x0FFF	Other Network Transport Streams
0x1000 – 0xFFFE	Reserved for future use (incl. Test Streams)
0xFFFF	Forbidden

Note:- Any conflicts or collisions which occur with the assignment of transport_stream_ids must be resolved by the network(s)/operator(s) involved.

3.5 Service Identification

A service can be uniquely referenced through the path:

original_network_id/transport_stream_id/service_id.

The network_id, thus, is not part of this path. In addition each service_id shall be unique within each original_network_id.

Table 9 lists the service_id assignments for Australian terrestrial television:

Table 9. Australian Service_id Assignments

Service_id value range	Assignment
0x0000	Reserved by DVB
0x0001 – 0x00FF	Reserved (in ad hoc use)
0x0100 – 0x01FF	Reserved (in ad hoc use)
0x0200 – 0x02FF	ABC Service Ids
0x0300 – 0x03FF	SBS Service Ids
0x0400 – 0x04FF	NINE Network Service Ids
0x0500 – 0x05FF	SEVEN Network Service Ids
0x0600 – 0x06FF	TEN Network Service Ids
0x0700 – 0x07FF	Nine Affiliate / Regional Service Ids
0x0800 – 0x08FF	TEN Affiliate / Regional Service Ids
0x0900 – 0x09FF	Seven Affiliate / Regional Service Ids
0x0A00 – 0x0AFF	Independent Network Service Ids
0x0B00 – 0x0BFF	Independent Network Service IDs
0x0C00 – 0x0CFF	ABC Regional Network Service Ids
0x0D00 – 0x0DFF	SBS Regional Network Service Ids
0x0E00 – 0x0EFF	Miscellaneous Multiplex Service Ids
0x0F00 – 0x0FFF	Other Network Service Ids
0x1000 – 0xFFFE	Reserved for future use (incl. Test Streams)
0xFFFF	Forbidden

Note:- Any conflicts or collisions which occur with the assignment of service_ids must be resolved by the network(s)/operator(s) involved.

3.6 Private data specifier values

The private_data_specifier_id descriptor is identified by tag value 0x5F and may be found in the NIT, BAT, SDT, EIT or PMT.

Australia has been allocated the assignment of the values 0x00003200 to 0x0000320F to terrestrial broadcast operators by the DVB Project Office. The value 0x00003200 has been reserved for generic use by Australian broadcasters and the other values assigned as shown in Table 10 below.

Table 10. Australian private_data_specifier_id Assignments

Service_id value range	Assignment
0x00003200	Generic broadcaster use
0x00003201	ABC
0x00003202	SBS
0x00003203	NINE
0x00003204	SEVEN
0x00003205	TEN
0x00003206 – 0x00003209	Reserved for future use
0x0000320A	Nine Affiliate / Regionals
0x0000320B	Seven Affiliate / Regionals
0x0000320C	TEN Affiliate / Regionals
0x0000320D	Independent Regional
0x0000320E	Imparja (all states)
0x0000320F	Southern Cross (all states)

4. REFERENCES

[1]	Digital Video Broadcasting (DVB);Specification for Service Information (SI) in DVB systems	ETSI EN 300 468 V1.6.1 (2004-11)
[2]	Digital Video Broadcasting (DVB); Guidelines for implementation and usage of Service Information (SI)	ETSI TR 101 211 V1.6.1 (2004-5)
[3]	Digital Video Broadcasting (DVB); Allocation of Service Information (SI) codes for Digital Video Broadcasting (DVB) systems	ETSI TR 101 162 V1.2.1 (2009-07)
[4]	Free TV Operational Practice 41 – Logical Channel Descriptor	Issue 5 September 2008

Annex A

A simple illustrative example of the terrestrial values of Original_network_id and Network_id

In coverage overlap areas the available services, whether intended or fortuitous, should have unique values of original_network_id to avoid confusion in the receiver.

Identification criteria for DTTB services is by;

original_network_id	(Operator identification)
and	
transport_stream_id	(Stream identification)
and	
service_id	(Service and Virtual Channel identification)

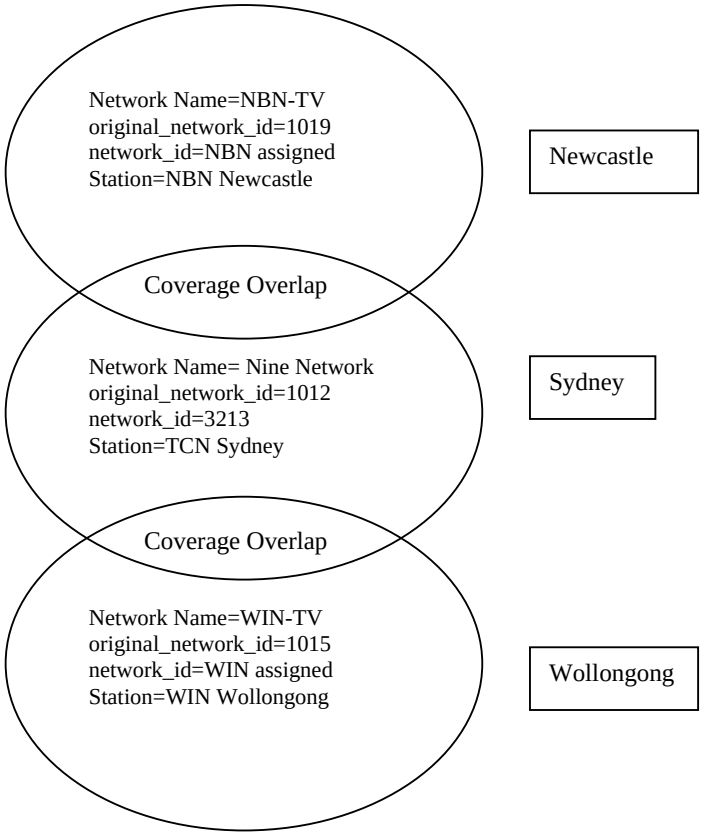
Note that network_id is not part of the identification criteria.

Take the situation where a service has been originated by the Nine Network from TCN, is transmitted on TCN and is also fed to affiliates WIN and NBN.

In accordance with the assignments in Tables 3 to 8, the Sydney service should have the original_network_id set to 0x1012 (= "Nine Network") and when transmitted on TCN, would have the network_id set to the value 0x3213 (=TCN).

For the Nine affiliate in Wollongong, WIN-TV, the original_network_id should have a different value, 0x1015 (= "WIN-TV").

For the Nine Affiliate in Newcastle, NBN-TV, the original_network_id should have another assigned value, 0x1019 (= "NBN-TV")



The network_name_descriptor is used to transmit the name of a physical network, associated with the network_id e.g. *"SEVEN Network", "NINE Network", "Network TEN"* etc. This descriptor is located in the first descriptor loop of the NIT sub tables. The textual information can be displayed on the on-screen display (OSD) of the receiver as is the case with other SI information.

[The linkage descriptor and other tools can be used to allow the receiver to be directed to a substitute or replacement service on another physical channel.]