NICE Identifier Structure

Version 1.1

Scenera, Inc., Nikon Corporation, Sony Semiconductor Solutions Corporation, Wistron Corporation and Hon Hai Precision Industry Co., Ltd.(NICE Alliance Promoters) contributed to this document.

Edit History

Version	Date	Comments
1.1	26 Jan 2022	Initial Version 1.1 release

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1. Scope

This document provides the rule for identifiers utilized in the NICE System.

2. Overview

Identifiers are used in NICE System to uniquely identify Entities. The Identifier has the original issuer of the identifier and the scope of uniqueness. This specification defines their combination and the notation format of the identifier.

The identifier may depend on the primary identifier (e.g. DeviceID).

It is implementation's responsibility to avoid collision of IDs if more than one original issuers exist in the same scope of uniqueness.

3. Identifier

3.1. EndPointID

ID	Original issuer		Scope of uniqueness	Format
	NICE LA	NICE AS		
EndPointID	X		NICE System	UUID
NICELAID	X		NICE System	UUID
NICEAccountServiceID	X		NICE System	UUID
DeviceID	X		NICE System	UUID
AppInstanceID		X	NICE System	UUID

3.2. Account

ID	Original issuer		Scope of uniqueness	Format
	NICE LA	NICE AS		
AccountID		X	NICE System	UUID
AppDeveloperID		X	NICE System	UUID
MasterIssuerID	X		NICE System	UUID
ManufacturerID	X		NICE System	UUID
DeviceSellerID	X		NICE System	UUID

3.3. Node

ID	Original issuer		Scope of the uniqueness	Format	Allowed Value
	Device	App/Service			
NodeID	X	X	Device/App/Service	4-digit zero-padded hexadecimal(16bit).	0000 is reserved. 0001 through ffff for Node.
PortID	X	X	Node	4-digit zero-padded hexadecimal(16bit).	0000 is reserved. 0001 through ffff for Node.
TransducerID	X	X	Node	4-digit zero-padded hexadecimal(16bit).	0000 through ffff

3.4. Object

ID	Original issuer				Scope of uniqueness	Format
	NICE LA	**NICE AS**	**Device**	**App/Service**		
AlgorithmID	X				NICE System	UUID
AudioAnalysisID	X				NICE System	UUID
CustomAnalysisID	X				NICE System	UUID
SceneEncryptionKeyID		X			NICE System	UUID
PrivacyObjectID		X			NICE System	UUID
SceneModeID				X	NICE System	*"SMD_" + UUID + "_" + NodeID + "_" + Instance* *UUID* is the EndPoint ID of the originator of the SceneMode corresponds to this ID. *NodeID* is the NodeID as the originator of the SceneMode corresponds to this ID. *Instance:*= 16-digit zero-padded hexadecimal (64bit).
RefDataID			X	X	Original issuer	Determined by Device/App/Service
SceneMarkID			X	X	NICE System	"SMK_" + *UUID* + *"_" + NodeID* + *"_" + Instance* *UUID i*s the EndPoint ID of the originator of the SceneMark corresponds to this ID. *NodeID* is the NodeID as the originator of the SceneMark corresponds to this ID. *Instance* := 16-digit zero-padded hexadecimal (64bit).
SceneDataID			X	X	NICE System	"SDT_" + *UUID* + *"_" + NodeID* + *"_" + Instance* *UUID* is the EndPoint ID of the originator of the SceneData corresponds to this ID. *NodeID* is the NodeID as the originator of the SceneData corresponds to this ID.

				Instance := 16-digit zero-padded hexadecimal (64bit).
DetectedObjectID	X	X	Original issuer	Determined by Device/App/Service

4. UUID

The structure of the UUID is compliant with RFC4122. Note that this specification does not ensure global uniqueness. Only within the NICE system it is ensured that each UUID is unique.

4.1. Basic Structure

UUID String Format	**IIIIIIII-TTTT-2TTT-dDDD-AAAAAAAAAAAA**

String length is 36 bytes. Definition of the fields are as follows.

Field	Format		Note
Local ID	**IIIIIIII**	8-digits hexadecimal, lowercase	32-bit value which is defined in each Domain.
TimeStamp	**TTTT**	4-digits hexadecimal, lowercase	Higher 16-bit value of a monotonically increasing value (see TimeStamp section below).
	2TTT	4-digits hexadecimal, lowercase	Fixed 4-bit value 0010b followed by lower 12-bit value of a monotonically increasing value (see TimeStamp section below).
Domain	**dDDD**	4-digits hexadecimal, lowercase	16-bit value. The most significant 2 bits shall be 10b.
Unique ID	**AAAAAAAAAAAA**	12-digits hexadecimal, lowercase	48-bit value. Development use if the most significant bit is 1.

4.2. Domain

Domain field defines the scope of uniqueness of the UUID. All entities in NICE System which generates UUIDs shall use the Value defined in the following table.

Domain	Scope of uniqueness	Value
-	Reserved.	8000
-	Reserved.	8001
NICE LA	There is only one NICE LA in the entire NICE system.	8002
NICE AS	There may be multiple NICE AS's. UUID maybe duplicated in other NICE AS's.	8003
	Reserved for future use.	8004 through ffff

4.3. Local ID

32-bit value. The most significant 2 bits shall be 10b. Usage of this field is defined by each Domain.

TimeStamp value can be duplicated in multiple UUIDs because a value lasts 16 seconds (see TimeStamp below). In such a case, uniqueness of the UUIDs shall be ensured by the Local ID and Unique ID values.

4.4. Unique ID

This field is recommended to be set a unique value, but duplicate values are allowed as long as the combination with Local ID and TimeStamp values is unique.

The value is 48-bit width. UUIDs with the value 1 in the most significant bit of Unique ID field are reserved for development use.

4.5. TimeStamp

The TTTT 2TTT value is based on Unix time. The Unix time is defined as the number of seconds from 00:00:00 on 1 January 1970 UTC. The Unix time value shall be converted to a 32-bit hexadecimal value and mapped to the TTTT 2TTT by taking the most significant 28-bit digits into the 7 'T' values of the TTTT 2TTT field.

For example, the Unix time value for 12 am on 25 December 2019 is 1 577 275 200 in decimal which is converted to hexadecimal 5E03 4F40. This is then mapped onto the field to become 5E03 **2**4F4. The value **2** is fixed.

UUID generation rule in NICE LA and NICE AS is not disclosed in this specification in terms of security perspective.