

# Authorization code for extension

DESCRIPTION



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# 1

## GENERAL

Authorization codes are used to limit the public access possibilities for different user groups or individuals in the telephony system.

There are two types of authorization codes, Common and Individual.

- **Common authorization code**

The common authorization code is not connected to any directory number in the system. This authorization code cannot be changed by the user. This type of authorization code is suitable when there is need for a code that can be used from any telephone in the system or for visitors that do not have their own extension in the system.

The common authorization code provides two different functions:

- Locking or unlocking of an extension. When locked a lower class of service is used.
- Authorization code dialing. Enables the calling party to use other class of services than those the extension is programmed with.

- **Individual authorization code**

The individual authorization code is always affiliated to a directory number in the system. This type of authorization code is suitable when there is need for a code that is used by only one user that mainly is using the code from the own telephone and wants to change the code now and then. An individual authorization code can always be used from the own or from other extensions.

The individual authorization code provides the same functions as the common one, with the added function:

- Changing the authorization code from the telephone. This enables the authorization code user to change the code when suitable.

## 2 FUNCTIONS

### 2.1 DEFINITIONS

#### 2.1.1 AUTHORIZATION CODE

The individual authorization code is set by command and can be 2 to 64 digits or characters long. For SIP extensions the code can be 2 to 64 characters long, i.e. not just digits but also ASCII letters and special characters, if the phone supports that.

A common authorization code (1 to 10 digits) can be dialed from any extension, unless the extension's categories prevent it. An individual authorization code is always associated with a specific extension but can be dialed from any extension (by providing the concerned directory number).

A Call Information Logging (CIL) code is associated with every authorization code. The CIL code can be between 1 to 20 digits (but for some output formats only 6 or 15 digits), and is used to identify the calling party in call logging.

#### 2.1.2 CLASS OF SERVICE

A common category representing the Class of Service (COS) is associated with every authorization code. The digital and analog extensions use a Common Category code (CAT) and the generic extensions use a Common Service Profile (CSP).

Three different CATs are used in conjunction with authorization code for digital and analog extensions:

- a minimum category, used from locked extensions, usually with restricted COS.
- any category, associated with the authorization code, usually with a higher COS.
- the normal category, initiated to the extension and used when it is unlocked and using no authorization code.

Two different CSPs are used in conjunction with authorization code for generic extensions:

- any CSP, associated with the authorization code, usually with a higher COS.
- the normal CSP, initiated to the extension and used when it is unlocked and using no authorization code.

#### 2.1.3 LOCKING/UNLOCKING OF EXTENSIONS

The authorization code can be used for locking and unlocking of an extension. This will lock the entire instrument (for example, a telephone with more than one line).

If the authorization code is used for unlocking of an extension, the normal category will be used until the extension is locked again.

For incoming calls to a locked extension, the category used will be the category valid for the unlocked extension. If, for example, call diversion on no answer is initiated on an unlocked extension and the extension is then locked, an incoming call will still be diverted according to the category of the unlocked extension.

## 2.1.4 ADDITIONAL SECURITY

It is possible to add an extra security level, when initiating an extension. This is done to prevent unauthorized persons from using authorization codes. The extra security will have the effect that it will not be possible to use general authorization codes on this specific extension, but only authorization codes connected to the extension.

Additional security is only applicable to the common authorization code.

## 2.2 DIALING WITH COMMON AUTHORIZATION CODE

The procedure for using an authorization code must always precede the wanted number. The format for the procedure is \*FC\* authorization code #, where FC is the function code for using a common authorization code. For digital and analog extensions, this procedure may also be stored as an individual abbreviated number.

The authorization code is always verified in the data base. If it is valid the call will proceed using the class of service associated with the authorization code, otherwise the call is terminated.

## 2.3 LOCK/UNLOCK EXTENSION WITH COMMON AUTHORIZATION CODE

**Lock** A specific procedure dialed from the extension will lock the extension. The format for the procedure is \*FC\* authorization code # where FC is the function code for locking or unlocking with a common authorization code.

The extension will only be locked if the authorization code is valid and the extension is not already locked with either a common or an individual authorization code.

All calls from this extension, when no authorization code is given, will use the minimum common category or minimum (default) common service profile.

Calls from this extension, using a valid authorization code will use the common category or the common service profile associated with the code.

**Unlock** The extension can be unlocked in the same manner as for locking. The format for the procedure is #FC\* authorization code #, where FC is the function code for locking or unlocking with a common authorization code.

The extension will only be unlocked if the extension is not locked with an individual authorization code. Calls from an unlocked extension, without an authorization code, will use the common category or common service profile programmed for the extension.

## 2.4 DIALING WITH INDIVIDUAL AUTHORIZATION CODE

**Own telephone** The individual authorization code can be used from the own telephone. The procedure for using an authorization code must always precede the wanted number. The format for the procedure is \* FC \* authorization code # where FC is the function code for using an individual authorization code. For digital and analog extensions, this procedure may also be stored as an individual abbreviated number.

**Other telephone** The individual authorization code can also be used from an other telephone than the own. The procedure for using an authorization code must always precede the wanted number. The format for the procedure is \* FC \* authorization code

\* DIR # where FC is the function code for using an individual authorization code and DIR is the own directory number.

The authorization code is always verified in the individual data base. If the code is valid the call will proceed using the class of service associated with the authorization code, otherwise the call is terminated.

## 2.5

### LOCK/UNLOCK EXTENSION WITH INDIVIDUAL AUTHORIZATION CODE

**Lock** A specific procedure dialed from the extension will lock the extension. The format for the procedure is \* FC \* authorization code # where FC is the function code for locking or unlocking with an individual authorization code.

The extension will only be locked if the authorization code is valid and if the extension is not already locked with either a common or an individual authorization code.

All calls from this extension, when no authorization code is given, will use the minimum common category or the default common service profile.

Calls from this extension using a valid authorization code will use the common category or the common service profile associated with the code.

**Unlock** The extension can be unlocked in the same manner as for locking. The format for the procedure is # FC \* authorization code # where FC is the function code for locking or unlocking with an individual authorization code.

The extension will only be unlocked if the authorization code is valid and if the extension is locked with the individual authorization code. Calls from an unlocked extension, without an authorization code, will use the common category or common service profile programmed for the extension.

## 2.6

### LOCK/UNLOCK EXTENSION WITH INDIVIDUAL AUTHORIZATION CODE FROM OPI

**Lock** A specific procedure dialed from the PBX operator console will lock the extension. The format for the procedure is \* FC \* DIR # where FC is the function code for locking or unlocking using individual authorization code and DIR is the extension number.

When locking an extension, the system checks if the extension is tied to an individual authorization code. Only then, locking of the extension, will succeed. The extension will not be locked if it is already locked with either a common or an individual authorization code.

**Unlock** The extension can be unlocked in the same manner as for locking. The format for the procedure is # FC \* DIR \* authorization code # where FC is the function code for locking or unlocking with an individual authorization code and where DIR is the extension number.

The extension will only be unlocked if the authorization code is valid and if the extension is locked with the individual authorization code.

## 2.7 CHANGING INDIVIDUAL AUTHORIZATION CODE

The authorization code can only be changed from the own telephone. A specific procedure dialed from the extension must be used. The format for the procedure is \*FC\* previous authorization code \* new authorization code #, where FC is the function code for changing the individual authorization code.

**Note:** The end user's change procedure only supports digits (since DTMF is used to convey the codes).

## 2.8 AUTHORIZATION CODE IN NETWORK

The authorization code function is supported in a H.323 network, and in a H.323 network mixed with ISDN, and in homogeneous ISDN networks. The function permits user-to-user signaling where the dialed destination is located in another node (set per destination).

# 3 AUTHORIZATION CODE ACCESS

The authorization codes are stored in a replicated Home Location Register (HLR) database, which means that all codes are available in each LIM, so LIM isolation does not matter to the Authorization Code function.

## 4

## SUMMARY

## 4.1

## COMMON AUTHORIZATION CODE

The following table gives a summary of the different traffic cases and the common categories or common service profiles which are used for common authorization codes.

EXTENSION'S STATUS	AUTHORIZATION CODE GIVEN	VALID CODE?	CATEGORY/ PROFILE USED
Extension Not Locked	YES	YES	AUTH ASSOC
	YES	NO	NO PROGRESS
	YES	YES/NOCAT	NO PROGRESS
	YES	YES/NO CSP	NO PROGRESS
	NO	-	OWN
Extension Locked	YES	YES	AUTH ASSOC
	YES	NO	NO PROGRESS
	YES	YES/NOCAT	NO PROGRESS
	YES	YES/NO CSP	NO PROGRESS
	NO	-	MIN

The associated common category or common service profile will be used when a valid authorization code is given. If no common category has been set for an analog or digital extension a valid authorization code will give no progress. If no common service profile has been set for a generic extension a valid authorization code will give no progress.

**AUTH ASSOC**

Category or service profile associated with the authorization code

**OWN**

Category or service profile associated with the calling extension

**NO PROGRESS**

Clear call, send no progress message.

**MIN**

The minimum common service profile for generic extension or the minimum category for other extension types are used from locked extensions

**YES/NOCAT**

Valid authorization code, but CAT is not valid for this common authorization code, only CSP.

**YES/NO CSP**

Valid authorization code, but CSP is not valid for this common authorization code, only CAT.



## 4.2

## LOCKING/UNLOCKING EXTENSION WITH COMMON AUTHORIZATION CODE

The following table gives a summary of the categories used by both analog, digital, and generic extensions in different traffic cases for LOCKING or UNLOCKING using common authorization codes.

EXTENSION'S STATUS	AUTHORIZATION CODE GIVEN	VALID CODE?	STATE OF EXTENSION
Extension Unlocked - Trying to Lock Extension	YES	YES	LOCKED
	YES	NO	NOT LOCKED
	NO	-	NOT LOCKED
Extension Locked - Trying to Unlock Extension	YES	YES	UNLOCKED
	YES	NO	NOT UNLOCKED
	NO	-	NOT UNLOCKED

The extension will be locked or unlocked only if a valid authorization code is given.

## 4.3

## INDIVIDUAL AUTHORIZATION CODE

The following table gives a summary of the different traffic cases and the common categories which are used for individual authorization codes.

EXTENSION'S STATUS	AUTH GIVEN USING OWN TELEPHONE	AUTH GIVEN USING OTHER TELEPHONE	VALID CODE?	CATEGORY/ PROFILE USED
Extension Not Locked	YES	-	YES	AUTH ASSOC
	YES	-	NO	NO PROGRESS
	NO	-		OWN
	-	YES	YES	AUTH ASSOC
	-	YES	NO	NO PROGRESS
Extension Locked	YES	-	YES	AUTH ASSOC
	YES	-	NO	NO PROGRESS
	NO	-		MIN
	-	YES	YES	AUTH ASSOC
	-	YES	NO	NO PROGRESS

**AUTH ASSOC**

Category or service profile associated with the authorization code

**MIN**

The minimum common service profile or the minimum category are used from locked extensions

**NO PROGRESS**

Clear call, send no progress message

**OWN**

Category or service profile associated with the calling extension

When a valid authorization code is given, either from the own or from an other telephone, the call will use the common category or common service profile that has been set for the extension.