4GL/ABL: The one way uniqueness of the Progress 4GL ENCODE function

Environment All Supported Operating Systems
Progress 8.x
Progress 9.x
OpenEdge 10.x

Question/Problem Description 4GL/ABL: The one way uniqueness of the Progress 4GL **ENCODE** function
What does the Progress 4GL **ENCODE** function do?
Can the action of the Progress 4GL **ENCODE** function be reversed?
What algorithm is used by the Progress 4GL ENCODE function?

Clarifying Information

Error Message

Defect/Enhancement Number

Cause

Resolution The Progress 4GL **ENCODE** Function takes a character string as input and returns a 16 character long encoded string.

Although the same source character string always yields a unique result the reverse is not true. That is the action of the Progress 4GL **ENCODE** function is not reversible and there is no 4GL function that would return the original source string by acting upon its encrypted value.

The Progress 4GL **ENCODE** function uses a **CRC-16** algorithm to generate its encoded output. This calculation involves a mathematical computational process that applies a polynomial value on the string.

The Progress 4GL **ENCODE** function operates on strings containing single as well as double-byte characters; of any length subject to Progress 4GL variable size limitations; and performs a one-way encoding operation that is irreversible. That is:

```
IF cStringA = cStringB THEN
ENCODE(cStringA) = ENCODE(cStringB).
```

However,

```
IF ENCODE(cStringA) = ENCODE(cStringB) THEN
```

cStringA **may or may not be equal to** cStringB.

In other words it is not possible to determine the original string from the result returned by the Progress 4GL **ENCODE** function .

Workaround

Notes References to Written Documentation:

Progress Language Reference

Attachment