RBS-2019-012

iEBSWAX ActiveX Control
Add() Method Argument Handling Heap Buffer Overflows
Vulnerable Program Details

Details for tested products and versions:

Vendor: Korea Educational Broadcasting Corporation (EBSi)
Product: iEBSWAX ActiveX Control (iEBSWAX.dll)
Version: 1.0.0.54

NOTE: Other versions than the one listed above are likely affected.

Credits

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Impact

The iEBSWAX ActiveX control (iEBSWAX.dll) contains multiple heap-based buffer overflows that may allow an attacker to compromise a user’s system.

Vulnerability Details

The ActiveX control provides the Add() method, which accepts 10 arguments as defined below:

```c
[id(0x00000001), helpstring("method Add")]
void Add(
    BSTR Key,
    BSTR cID,
    BSTR cName,
    BSTR kID,
    BSTR kName,
    BSTR StartTime,
    short nTimeRange,
    BSTR URL,
    BSTR LocalFileName,
    BSTR cType);
```

When the Add() method is called, the function responsible for handling it in iEBSWAX.dll eventually allocates and zeroes 1291 bytes of heap memory for a structure to hold the supplied arguments.

```
.text:10002889     mov    esi, 50Bh
```
A bit later, the argument is converted from a wide-character string.

The length of the converted argument is calculated and then copied into the previously allocated heap-based buffer via a call to memcpy().

As the length of the source string is used as the size argument, no proper bounds checks are performed. This may lead to a heap-based buffer overflow.

NOTE: Similar vulnerabilities exist when processing any of the other BSTR type arguments.

Solution

The vendor has deprecated the ActiveX control, and KrCERT/CC plans to set the kill-bit.
References

RBS: RBS-2019-012\(^1\)
VulnDB: 202047, 202048, 202049, 202050, 202051, 202052, 202053, 202054, 202055

Timeline

2019-01-18 Vulnerabilities discovered.
2019-02-01 Vulnerabilities reported to KrCERT/CC.
2019-04-04 Alerts published to VulnDB customers.
2019-05-21 Publication of this vulnerability report.

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