

# The Blink Standard Type Library

beta1 - 2013-06-14

*This document specifies a standard library of derived Blink types.*

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## Contents

1	Overview	1
2	Types	1
2.1	UUID	1
2.2	XML	1
2.3	BigInt	1
2.4	BigDec	2
2.5	IPv4Addr	2
2.6	IPv6Addr	2

## Appendices

A	References	2
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## 1 Overview

The standard type library contains definitions of types derived from more primitive Blink [BLINK] types. The collection of standard types is expected to grow over time. The version of this document is also the version of the library.

Each type that is not a group type has a unique type annotation. It is the value of the annotation that identifies the type.

For example, the following two types would be treated as the same derived type **F00**:

```
foo = @blink:type="F00" u32
oof = @blink:type="F00" u32
```

but the following type would be treated as the derived type **BAR**:

```
foo = @blink:type="BAR" u32
```

## 2 Types

The type and group definitions in the following sections are declared in the **blink** namespace:

```
namespace blink
```

### 2.1 UUID

A Universally Unique Identifier is represented as a fixed binary value of 16 bytes.

```
uuid = @blink:type="UUID" fixed (16)
```

### 2.2 XML

An XML document is represented as a UTF-8 string. The value of the string must be a well-formed XML document [XML].

```
xml = @blink:type="XML" string
```

If the value starts with an XML declaration that includes an encoding declaration, then the declared encoding must be UTF-8 or a subset thereof.

### 2.3 BigInt

A big integer is an integer with unlimited precision. It is represented as a sequence of bytes where the leftmost byte contains the most significant bits.

```
bigInt = @blink:type="BigInt" binary
```

## 2.4 BigDec

A big decimal number is represented as a group with an arbitrary precision mantissa, and a 32-bit exponent.

```
bigDec ->  
  i32 exponent,  
  bigInt mantissa
```

## 2.5 IPv4Addr

An IP v4 address is represented as a fixed sequence of four bytes.

```
ipv4Addr = @blink:type="IPv4Addr" fixed (4)
```

## 2.6 IPv6Addr

An IP v6 address is represented as a fixed sequence of 16 bytes.

```
ipv6Addr = @blink:type="IPv6Addr" fixed (16)
```

## A References

**BLINK** <http://blinkprotocol.org/spec/BlinkSpec-beta4.pdf>  
**XML** <http://www.w3.org/TR/xml/>