

# BioMOBY Base64 Primitive Type Proposal.

Specification  
(v 1.0)

Contributions: Dmitry Repchevsky  
Node GN-6: Computational Node, BSC



## 1. Preliminaries

The intention of this document is to introduce a new primitive type in BioMOBY to provide a standard way to pass a binary information inside a BioMOBY message. While BioMOBY already supports a wide range of primitive types (String, Integer, Float...) they do not represent all the possibilities that XML build-in datatypes may offer. In concrete the **base64Binary** type. The lack of such a type leads to contamination of BioMoby datatypes tree with many objects that use base64encoding as part of their contract.

## 1. Specification

Following the standard BioMOBY primitive type pattern the new type will be encoded as a complex XML type with simple context (in this case base64encoded).

XML Schema for the new type:

```
BioMOBY Binary type XML Schema
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema
  version="1.0"
  xmlns:tns="http://www.biomoby.org/moby"
  xmlns="http://www.biomoby.org/moby"
  xmlns:moby="http://www.biomoby.org/moby"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  attributeFormDefault="qualified"
  elementFormDefault="qualified"
  targetNamespace="http://www.biomoby.org/moby">
  <xs:element name="Binary" type="MobyBinary"></xs:element>
  <xs:complexType name="MobyBinary">
    <xs:simpleContent>
      <xs:extension
        base="xs:base64Binary"
        ns1:expectedContentTypes="application/octet-stream"
        xmlns:ns1="http://www.w3.org/2005/05/xmlmime">
        <xs:attribute name="articleName" type="xs:string"/>
        <xs:attribute name="id" type="xs:string"/>
        <xs:attribute name="namespace" type="xs:string"/>
      </xs:extension>
    </xs:simpleContent>
  </xs:complexType>
</xs:schema>
```

The encoding example:

```
XML encoded fragment
<moby:Binary id="" namespace="">dGVzdA==</moby:Binary>
```