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**Nodeprep: A Stringprep Profile for Node Identifiers in XMPP**  
**draft-ietf-xmpp-nodeprep-03**

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Abstract

This document defines a stringprep profile for node identifiers in the Extensible Messaging and Presence Protocol (XMPP).

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## **1. Introduction**

This document, which defines a profile of stringprep ([RFC 3454](#) [1]), specifies processing rules that will enable users to enter internationalized node identifiers in XMPP (see XMPP Core [2]) and have the highest chance of getting the content of the strings correct. These processing rules are intended only for XMPP node identifiers (which are often associated with usernames), and are not intended for arbitrary text.

This profile defines the following, as required by [RFC 3454](#) [1]:

- o The intended applicability of the profile: internationalized node identifiers within XMPP
- o The character repertoire that is the input and output to stringprep: Unicode 3.2, specified in [section 2](#)
- o The mappings used: specified in [section 3](#)
- o The Unicode normalization used: specified in [section 4](#)
- o The characters that are prohibited as output: specified in [section 5](#)
- o Bidirectional character handling: specified in [section 6](#)

### **1.1 Terminology**

This document inherits the terminology defined in XMPP Core [2].

The capitalized key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC 2119](#) [3].

### **1.2 Discussion Venue**

The authors welcome discussion and comments related to the topics presented in this document. The preferred forum is the <xmppwg@jabber.org> mailing list, for which archives and subscription information are available at <<http://www.jabber.org/cgi-bin/mailman/listinfo/xmppwg/>>.

### **1.3 Intellectual Property Notice**

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## **2. Character Repertoire**

This profile uses Unicode 3.2 with the list of unassigned code points being Table A.1, both defined in [Appendix A of RFC 3454](#) [[1](#)].

### **3. Mapping**

This profile specifies mapping using the following tables from [RFC 3454](#) [[1](#)]:

Table B.1

Table B.2



#### **4. Normalization**

This profile specifies using Unicode normalization form KC, as described in [RFC 3454](#) [[1](#)].

## 5. Prohibited Output

This profile specifies prohibiting use of the following tables from [RFC 3454](#) [1].

Table C.1.1

Table C.1.2

Table C.2.1

Table C.2.2

Table C.3

Table C.4

Table C.5

Table C.6

Table C.7

Table C.8

Table C.9

In addition, the following Unicode characters are also prohibited:

#x22 (")

#x26 (&)

#x27 (')

#x2F (/)

#x3A (:)

#x3C (<)

#x3E (>)

#x40 (@)



## **6. Bidirectional Characters**

This profile specifies checking bidirectional strings as described in [section 6 of RFC 3454](#) [[1](#)].

## **7. Security Considerations**

The Unicode and ISO/IEC 10646 repertoires have many characters that look similar. In many cases, users of security protocols might do visual matching, such as when comparing the names of trusted third parties. Because it is impossible to map similar-looking characters without a great deal of context such as knowing the fonts used, stringprep does nothing to map similar-looking characters together nor to prohibit some characters because they look like others.

A node identifier can be employed as one part of an entity's address in XMPP. One common usage is as the username of an instant messaging user; another is as the name of a multi-user chat room; and many other kinds of entities could use node identifiers as part of their addresses. The security of such services could be compromised based on different interpretations of the internationalized node identifier; for example, a user entering a single internationalized node identifier could access another user's account information, or a user could gain access to an otherwise restricted chat room or service.



## **8. IANA Considerations**

This is a profile of stringprep. If and when it becomes an RFC, it should be registered in the stringprep profile registry maintained by the IANA [\[4\]](#).

Name of this profile:

Nodeprep

RFC in which the profile is defined:

This document

Indicator whether or not this is the newest version of the profile:

This is the first version of Nodeprep





## Normative References

- [1] Hoffman, P. and M. Blanchet, "Preparation of Internationalized Strings ("stringprep")", [RFC 3454](#), December 2002.
- [2] Saint-Andre, P. and J. Miller, "XMPP Core", [draft-ietf-xmpp-core-13](#) (work in progress), June 2003.
- [3] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), March 1997.
- [4] Internet Assigned Numbers Authority, "Internet Assigned Numbers Authority", January 1998, <<http://www.iana.org/>>.

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## **Appendix A. Revision History**

Note to RFC Editor: please remove this entire appendix, and the corresponding entries in the table of contents, prior to publication.

### **A.1 Changes from [draft-ietf-xmpp-nodeprep-02](#)**

- o Provided additional examples of node identifier usage.
- o Made several small editorial changes.

### **A.2 Changes from [draft-ietf-xmpp-nodeprep-01](#)**

- o Made small editorial changes to address RFC Editor requirements.

### **A.3 Changes from [draft-ietf-xmpp-nodeprep-00](#)**

- o Clarified references to Unicode 3.2 and unassigned code points.

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