

Universal Multiple-Octet Coded Character Set  
International Organization for Standardization  
Organisation Internationale de Normalisation  
Международная организация по стандартизации

**Doc Type: Working Group Document**

**Title: Proposal to encode one combining character in the UCS**

**Source: Lithuanian Standards Board (LST)**

**Status: Correspondent Member Contribution**

**Action: For consideration by JTC1/SC2/WG2 and UTC**

**Date: 2003-06-25**

**ISO/IEC JTC 1/SC 2/WG 2  
PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS  
FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646<sup>1</sup>**

Please fill all the sections A, B and C below.

(Please read Principles and Procedures Document for guidelines and details before filling this form.)

See <http://www.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html> for latest Form.

See <http://www.dkuug.dk/JTC1/SC2/WG2/docs/principles.html> for latest Principles and Procedures document.

See <http://www.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html> for latest roadmaps.

**A. Administrative**

|  |  |
|--|--|
| 1. Title:  | <u>Proposal to encode one combining character in the UCS</u> |
| 2. Requester's name:   | <u>Lithuanian Standards Board (LST)</u>                      |
| 3. Requester type (Member body/Liaison/Individual contribution): | <u>Correspondent Member</u>                                  |
| 4. Submission date:  | <u>2003-06-25</u>  |
| 5. Requester's reference (if applicable):                        | _____  |
| 6. (Choose one of the following:)                                |  |
| This is a complete proposal:                                     | <u>Yes</u>   |
| or, More information will be provided later:                     | _____  |

**B. Technical - General**

|   |  |
|---|--|
| 1. (Choose one of the following:)   |  |
| a. This proposal is for a new script (set of characters):   | _____  |
| Proposed name of script:  | _____  |
| b. The proposal is for addition of character(s) to an existing block:   | <u>Yes</u>   |
| Name of the existing block:   | <u>Combining Diacritical Marks</u>   |
| 2. Number of characters in proposal:  | <u>1</u>   |
| 3. Proposed category (see section II, Character Categories):  | <u>Combining</u>   |
| 4. Proposed Level of Implementation (1, 2 or 3) (see clause 14, ISO/IEC 10646-1: 2000):   | <u>3</u>   |
| Is a rationale provided for the choice?   | _____  |
| If Yes, reference:  | _____  |
| 5. Is a repertoire including character names provided?  | <u>Yes</u>   |
| a. If YES, are the names in accordance with the 'character naming guidelines in Annex L of ISO/IEC 10646-1: 2000?   | <u>Yes</u>   |
| b. Are the character shapes attached in a legible form suitable for review?   | <u>Yes</u>   |
| 6. Who will provide the appropriate computerized font (ordered preference: True Type, or PostScript format) for publishing the standard?  | <u>True Type, Vilnius University, Lithuania</u>  |
| If available now, identify source(s) for the font (include address, e-mail, ftp-site, etc.) and indicate the tools used:  | <u>Mr. Mindaugas Strockis, (<a href="mailto:Mindaugas.Strockis@ff.vu.lt">Mindaugas.Strockis@ff.vu.lt</a>), FontLab</u> |
| 7. References:  |  |
| a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?   | <u>Yes</u>   |
| b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?  | <u>Yes</u>   |
| 8. Special encoding issues:   |  |
| Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)?   | <u>The character behaves just like the existing combining characters</u>   |
| 9. Additional Information:  |  |
| Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at <a href="http://www.unicode.org">http://www.unicode.org</a> for such information on other scripts. Also see <a href="http://www.unicode.org/Public/UNIDATA/UnicodeCharacterDatabase.html">http://www.unicode.org/Public/UNIDATA/UnicodeCharacterDatabase.html</a> and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard. |  |

<sup>1</sup> Form number: N2352-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09)

### C. Technical - Justification

|   |   |
|---|---|
| 1. Has this proposal for addition of character(s) been submitted before?<br>If YES explain _____  | _____ <u>No</u>   |
| 2. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)?<br>If YES, with whom? _____<br>If YES, available relevant documents: _____  | _____   |
| 3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included?<br>Reference: <i>Lithuanian Academic community</i> _____   | _____ <u>Yes</u>  |
| 4. The context of use for the proposed characters (type of use; common or rare)<br>Reference: _____   | _____ <u>Phonetic transcription</u><br><u>(infrequent, educational use)</u> |
| 5. Are the proposed characters in current use by the user community?<br>If YES, where? Reference: <u>In Lithuania, in linguistic literature, dictionaries</u>   | _____ <u>Yes</u>  |
| 6. After giving due considerations to the principles in <i>Principles and Procedures document</i> (a WG 2 standing document) must the proposed characters be entirely in the BMP?<br>If YES, is a rationale provided?<br>If YES, reference: _____   | _____ <u>Yes</u><br>_____ <u>Yes</u>  |
| 7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?   | _____   |
| 8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?<br>If YES, is a rationale for its inclusion provided?<br>If YES, reference: _____   | _____ <u>No</u><br>_____  |
| 9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters?<br>If YES, is a rationale for its inclusion provided?<br>If YES, reference: _____  | _____ <u>No</u><br>_____  |
| 10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character?<br>If YES, is a rationale for its inclusion provided?<br>If YES, reference: _____  | _____ <u>No</u><br>_____  |
| 11. Does the proposal include use of combining characters and/or use of composite sequences (see clauses 4.12 and 4.14 in ISO/IEC 10646-1: 2000)?<br>If YES, is a rationale for such use provided?<br>If YES, reference: _____<br>Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?<br>If YES, reference: _____ | _____ <u>No</u><br>_____  |
| 12. Does the proposal contain characters with any special properties such as control function or similar semantics?<br>If YES, describe in detail (include attachment if necessary)   | _____ <u>No</u><br>_____  |
| 13. Does the proposal contain any Ideographic compatibility character(s)?<br>If YES, is the equivalent corresponding unified ideographic character(s) identified?<br>If YES, reference: _____   | _____ <u>No</u><br>_____  |

To properly describe the accentuation system of the Lithuanian dialects, it is necessary to add the COMBINING ZIGZAG ABOVE to UCS:

|   |        |                        |
|---|--------|------------------------|
|  | U+???? | COMBINING ZIGZAG ABOVE |
|---|--------|------------------------|

## Substantiation of the COMBINING ZIGZAG ABOVE in UCS


### 1. Meaning and place of the COMBINING ZIGZAG ABOVE in the accentuation system of the Lithuanian language

There are three main accents in the accentuation system of the Lithuanian language: acute, circumflex and grave. Beside these, four variants of the main accents are used in Lithuanian dialects. Only one of these accent variants has no corresponding sign in the UCS.


**1.1. The Lithuanian language** has two **main** tones for long syllables: a rising tone and a falling tone. The stressed short syllable, even though it has no tone, is marked by a corresponding grave accent; therefore there are three main accents: the acute, the circumflex and grave.

**Note on Lithuanian circumflex.** The circumflex accent in Lithuanian has a wavy shape, and looks identical to tilde (compare the polytonic Greek circumflex, *perispomeni*). The UCS combining tilde sign therefore can be used as the Lithuanian circumflex. The angled Latin circumflex has a different meaning in Lithuanian (see 1.2.1 below).


1.1.1. The **falling tone** is marked by an acute accent (corresponding to COMBINING ACUTE ACCENT in UCS):

| Lithuanian language                 |                | UCS                    |      |   |
|-------------------------------------|----------------|------------------------|------|---|
| Description                         | Name of accent | Name                   | Code | Sign  |
| Stressed syllable with falling tone | Acute          | COMBINING ACUTE ACCENT | 0301 |  |

1.1.2. The **rising tone** is marked by a circumflex accent (corresponding to COMBINING TILDE in UCS):

| Lithuanian language                |                | UCS             |      |   |
|------------------------------------|----------------|-----------------|------|---|
| Description                        | Name of accent | Name            | Code | Sign  |
| Stressed syllable with rising tone | Circumflex     | COMBINING TILDE | 0303 |  |

1.1.3. The **short stressed syllable** is marked by a grave accent (corresponding to COMBINING GRAVE ACCENT in UCS):

| Lithuanian language     |                | UCS                    |      |   |
|-------------------------|----------------|------------------------|------|---|
| Description             | Name of accent | Name                   | Code | Sign  |
| Stressed short syllable | Grave          | COMBINING GRAVE ACCENT | 0300 |  |

**1.2. Accentuation of the Lithuanian dialects.** In addition to the aforementioned tones, four further variants for dialects are distinguished: broken, middle, abrupt and general accents, which are marked as follows.

1.2.1. The **broken tone** is marked by a broken accent (corresponding to COMBINING CIRCUMFLEX ACCENT in UCS):

| Lithuanian language                |                | UCS                         |      |      |
|------------------------------------|----------------|-----------------------------|------|------|
| Description                        | Name of accent | Name                        | Code | Sign |
| Stressed syllable with broken tone | Broken accent  | COMBINING CIRCUMFLEX ACCENT | 0302 |      |

1.2.2. The **middle tone** is marked by a middle accent (corresponding to COMBINING VERTICAL TILDE in UCS):

| Lithuanian language                |                | UCS                      |      |      |
|------------------------------------|----------------|--------------------------|------|------|
| Description                        | Name of accent | Name                     | Code | Sign |
| Stressed syllable with middle tone | Middle accent  | COMBINING VERTICAL TILDE | 030E |      |

1.2.3. The **abrupt tone** is marked by an abrupt accent with a “zigzag” form (there is no corresponding mark in UCS, but it could be named “COMBINING ZIGZAG ABOVE”):

| Lithuanian language                |                | UCS                    |      |      |
|------------------------------------|----------------|------------------------|------|------|
| Description                        | Name of accent | Name                   | Code | Sign |
| Stressed syllable with abrupt tone | Abrupt accent  | COMBINING ZIGZAG ABOVE | ???? |      |

1.2.4. In those cases where the **tone** is almost **indefinable** and it is difficult to define it precisely, the general stress is used, represented by a vertical short line (corresponding to COMBINING VERTICAL LINE ABOVE in UCS):


| Lithuanian language                 |                | UCS                           |      |      |
|-------------------------------------|----------------|-------------------------------|------|------|
| Description                         | Name of accent | Name                          | Code | Sign |
| Stressed syllable, tone unspecified | General stress | COMBINING VERTICAL LINE ABOVE | 030D |      |

**1.3. Summary of accentuation system of the Lithuanian language.** For marking all tones of the Lithuanian language and its dialects, seven accents marks are needed. Three of them are main accents, and the other four variants:

| <i>MAIN ACCENTS</i> |      |                        |
|---------------------|------|------------------------|
| Sign                | Code | Name                   |
|                     | 0301 | COMBINING ACUTE ACCENT |
|                     | 0303 | COMBINING TILDE        |
|                     | 0300 | COMBINING GRAVE ACCENT |

| <i>VARIANTS OF ACCENTS</i> |      |                               |
|----------------------------|------|-------------------------------|
| Sign                       | Code | Name                          |
|                            | 0302 | COMBINING CIRCUMFLEX ACCENT   |
|                            | ???? | <b>COMBINING ZIGZAG ABOVE</b> |
|                            | 030E | COMBINING VERTICAL TILDE      |
|                            | 030D | COMBINING VERTICAL LINE ABOVE |

1.4. UCS lacks only one combining mark of this system: there is no COMBINING ZIGZAG ABOVE,

which takes this form: . It is absolutely necessary because it marks the abrupt tone, which is characteristic of the northern-eastern Lithuanian dialects (in the surroundings of Biržai, Kupiškis, Anykščiai and other towns). In these dialects the abrupt tone replaces the falling tone in certain positions: on long vowels and especially on monophthongised diphthongs at the ends of words. A syllable bearing this tone is pronounced rather short, with an abrupt stop of the voice, as if chopping off the remainder of the syllable.

## 2. Usage of the ZIGZAG ABOVE in linguistic literature

The abrupt accent is represented by the mark of ZIGZAG in the principal standard works of Lithuanian dialectology, university student manuals and chrestomathies of the dialects, such as:

- (1) GRINAVECKIENĖ, ELENA, MORKŪNAS, KAZYS (eds), *et al.* 1970: *Lietuvių kalbos tarmės. Chrestomatija*, Vilnius: Mintis. 518 pp. (*The Lithuanian Dialects. A Chrestomathy*)
- (2) MORKŪNAS, KAZYS (ed), *et al.* 1982: *Lietuvių kalbos atlasas 2. Fonetika*, Vilnius: Mokslas. 148 pp. + 112 maps. (*Lithuanian Language Atlas. Vol. 2. Phonetics*)
- (3) ZINKEVIČIUS, ZIGMAS 1966: *Lietuvių dialektologija. Lyginamoji tarmių fonetika ir morfologija*, Vilnius: Mintis. 542 pp. + 75 maps. (*Lithuanian Dialectology. Comparative Phonetics and Morphology of Lithuanian Dialects*)
- (4) ZINKEVIČIUS, ZIGMAS 1978: *Lietuvių dialektologija*. Vilnius: Mokslas. 192 p. (*Lithuanian Dialectology*)

## 3. Samples of usage of the ZIGZAG ABOVE

From (1), p. 277:

### Ūdra varžoje

393. *kė̇ nevė̇že* [Nevėžė = Nevėžis] *nekastù bú·va, ku̇ dabat̃ š' vė̇ndras,*  
*anė̇s māt̃tes tē̇te\* ū̇dru pagá·va: in' t̃liñda vá·ržon, p' rirl'ja žuviēs, pro*  
*i·ngerclu išl' s' t' nebegá·li | tē̇te nuvė̇ja vá·ržas kratl' t' – neištrá·uki |*  
*ž' ū̇ri – kó·jas žusiēs, nó·se\* – šuniēs, vadegù – kė̇p lá·pes | spalvù*  
*bú·va tó·ki kė̇p lá·pes, – gerė̇ nebeacl'·menv | nuplė̇še skú·ru\*, p' ripl'·la*  
*pelanù, iz' dživl'·na ir pařdave |*

From (2), p. 48:

ų šnektos plote (žr. p. 44 – 45 ir žemėl. nr. riame žodžio gale, išskyrus atvejus, kai tas *é* alsių *k, g, š, ž, č, j*, tariama *á*, plg. *duktá*, *vė, v'ersmá*, *ž'ę.vá* ~ *žievė*, bet *apuš'ė*, 7, 144) *var's'k'ė*. Dėl kitų tarmių ir literatūritakos jaunesnioji karta neretai šio dėsniu pavyzdžiui, taria *kat'ė* 207, *g'ę.s'm'ė* ~ *gar'b'ė*, *kat'ė* 272a.

*e* vietoj *lk. é* yra dvejopas: kirčiuotas ir

From (3), p. 37:

šnektose, turinčiose žodžio galo dvibalsių monoftongizaciją, tiek priartėja prie trumpinės, kad netgi sunku atskirti nuo pastarosios. Antai Biržų šnektos dvibalsinės kilmės monoftongai galūnėse *-ė(s) < -ai(s)*, *-ė(s) < -ei(s)* ir *-iė*, *-ė(s) < -aū(s)* ir *-uė* tariami trumpai, lyg būtų *-ė(s)*, *-ė(s)*, *-ė(s)*. Maždaug taip čia taria ir kai kuriuos senuosius monoftongus, ypač galūnėje prieš *-s*, pvz., gen. sing. *gerklės* 'gerklės', *katės* 'katės', *galvos* 'galvos' ir nom. sing. *gerklė* 'gerklė', *katė* 'katė'. Tarmėse, kur nėra žodžio galo dvibalsių monoftongizacijos, kirstinė priegaidė nėra taip labai priartėjusi prie trumpinės: čia balsiai yra pusilgiai (*gerklės*, *katės*...).

§ 27. Cirkumfleksas vietoj dėsningo akūto kartais atskirose šnektose gali atsirasti ekspresyvioje kalboje dėl sakinio intonacijos. Tai atsitinka dažniausiai ko

From (4), p. 165:

### Papilys

*gi.vá.nó. kaĩ·tu. biėdnas žmó.gė.li.s* || *niėkas jó. žė.ma.j neá·ugdavo.* | *ĩk viėni s.kmanas* (~ *ákmėnes* 'akmenys') || *ó. pĩevó.j tai viėni káelmaĩ* | *ñę.kuĩ dal'gæ.s pasú.kĩ* || *vaĩ·ksta kaĩ·tu. žmó.gė.li.s tó.s ká·lmus rá·udamas ir nušikė.ikæ.* || *žũ·ra | pĩlešais vėlnũ.kas atbá·ga* || *kó·m tu maĩũ šaukãĩ* | *klá·uša* || *ó. žmó·gus jó·m ir só.kó.* | *nũgi pĩiá·ugo. mó·n ró·pu. ba tvarkó.s* (= labai daug) || *rá·unu ir ñegalũ gó.ló. gá·uĩ* || *rá·ukum* (= raukime) *unt pú.sa.s* (= per pusę, pusiau).

LKT, Nr. 413–429, 431–433; LiDi, p. 72–76, 100–105; Gauthiot R. Le par-