

**ISO/IEC JTC 1/SC 2
Coded Character Sets
Secretariat: [Japan \(JISC\)](#)**

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**Summary of Voting on
ISO/IEC JTC 1/SC 2 N 3943 :
ISO/IEC 10646: 2003/FPDAM 4, Information technology -- Universal Multiple-Octet Coded
Character Set (UCS) -- AMENDMENT 4: Lanna, Cham, Game Tiles, and other characters**

Q1 : FPDAM Consideration

	Q1			Not yet voted	Comments Reasons
	Approve	Disapprove	Abstention		
P-Member					
Belgium				X	
Canada	X				
China		X			Attachment 1
Egypt				X	
Finland	X				
France			X		
Germany	X*				See below
Greece				X	
Iceland				X	
India	X				
Indonesia	X				
Iran, Islamic Republic of	X				
Ireland		X#			Attachment 2
Italy	X				
Japan		X#			Attachment 3
Kazakhstan				X	
Korea, Democratic People's Republic				X	
Korea, Republic of	X				
Mongolia	X				
Morocco			X		
Norway	X				
Poland	X				
Romania	X				
Russian Federation				X	
Serbia				X	
Sweden			X		
Thailand	X				
Tunisia				X	
United Kingdom	X*				Attachment 4
USA	X*				Attachment 5
Total (30)	15	3	3	9	

*: Approve with comments

#: Acceptance of the reasons and appropriate changes in the text will change the vote to approval.

Germany

LATIN CAPITAL LETTER SHARP S We request a glyph change for U+1E9E in the code chart.

Attachment 1

China is against to ISO/IEC JTC1/SC2N3943 *FPDAM4* of ISO/IEC 10646: 2003.

Comments on LANNA:

1. The name “Lanna” does not reflect the real situation in China and other countries.
2. There are errors in character naming.
3. Character ordering should be inform to tradition.
4. Some characters are not needed.
5. Some characters are missing.

China will propose a paper with these comments in detail to SC2/WG2.

Irish comments on FPDAM-4 for ISO/IEC 10646:2003

Reference: SC2 N3943

Closes: 2007-09-11

Date: 2007-08-24

Ireland **disapproves** the draft with the technical and editorial comments given below. Acceptance of these comments and appropriate changes to the text will change our vote to approval.

Technical comments

T1. **Page 20, Table 36 - Row 10: Myanmar.** With reference to ISO/IEC JTC1/SC2/WG2 N3277R “Proposal for encoding additional Myanmar characters for Shan in the UCS”, Ireland requests the following changes to the Myanmar characters which are under ballot:

Move U+1077 MYANMAR LETTER SHAN CA to U+1078
 Move U+1078 MYANMAR LETTER SHAN NYA to U+107A and change its glyph as in N3277R.
 Move U+1079 MYANMAR LETTER SHAN NA to U+107C
 Move U+107A MYANMAR LETTER SHAN PHA to U+107D
 Move U+107B MYANMAR LETTER SHAN FA to U+107E
 Move U+107C MYANMAR LETTER SHAN THA to U+1080
 Move U+107D MYANMAR LETTER SHAN HA to U+1081
 Move U+107E MYANMAR CONSONANT SIGN SHAN MEDIAL WA to U+1082
 Move U+107F MYANMAR VOWEL SIGN SHAN AA to U+1083
 Move U+1080 MYANMAR VOWEL SIGN SHAN E to U+1084
 Move U+1081 MYANMAR VOWEL SIGN SHAN E ABOVE to U+1085
 Move U+1082 MYANMAR VOWEL SIGN SHAN FINAL Y to U+1086
 Move U+1083 MYANMAR SIGN SHAN TONE-2 to U+1087
 Move U+1084 MYANMAR SIGN SHAN TONE-3 to U+1088
 Move U+1085 MYANMAR SIGN SHAN COUNCIL TONE-4 to U+108C and rename it MYANMAR SIGN SHAN COUNCIL TONE-3
 Move U+1086 MYANMAR SIGN SHAN TONE-5 to U+1089
 Move U+1087 MYANMAR SIGN SHAN TONE-6 to U+108A
 Move U+1088 MYANMAR SIGN SHAN COUNCIL EMPHATIC to U+108D
 Move U+1089 MYANMAR LETTER RUMAI PALAUNG FA to U+108E
 Move U+108A MYANMAR SIGN RUMAI PALAUNG TONE-5 to U+108F
 Add MYANMAR LETTER SHAN GA to U+1077
 Add MYANMAR LETTER SHAN ZA to U+1079
 Add MYANMAR LETTER SHAN DA to U+107B
 Add MYANMAR LETTER SHAN BA to U+107F
 Add MYANMAR SIGN SHAN COUNCIL TONE-2 to U+108B
 Add MYANMAR SHAN DIGIT ZERO to U+1090
 Add MYANMAR SHAN DIGIT ONE to U+1091
 Add MYANMAR SHAN DIGIT TWO to U+1092
 Add MYANMAR SHAN DIGIT THREE to U+1093
 Add MYANMAR SHAN DIGIT FOUR to U+1094
 Add MYANMAR SHAN DIGIT FIVE to U+1095
 Add MYANMAR SHAN DIGIT SIX to U+1096
 Add MYANMAR SHAN DIGIT SEVEN to U+1097
 Add MYANMAR SHAN DIGIT EIGHT to U+1098
 Add MYANMAR SHAN DIGIT NINE to U+1099
 Add MYANMAR SYMBOL SHAN ONE to U+109E
 Add MYANMAR SYMBOL SHAN EXCLAMATION to U+109F

T2. **Page 42, Table 111 - Row 2E: Supplemental Punctuation.** The arrangement of the code table is unsatisfactory. We request that the characters in columns 2E2, 2E3, and 2E4 be rearranged as shown in the chart on page 5 below. We also request a name change to three

of the characters, whose names were proposed in N3193 as TILDE but which were proposed to be changed by the UTC to SWUNG DASH. The TILDE U+007F and the SWUNG DASH U+2053 are similar characters with similar functions. Both may be used in lexicography as a sign of repetition (Figs. 1, 2, 3 below). In Uralic linguistics (as noted in N2419), the SWUNG DASH is used to indicate relationship between the entities on either side of it. This relation can be etymological (Figs. 4, 5 below) or phonological/phonetic (Figs. 6, 7, 8 below).

3 **Eine Tilde** (~) wurde verwendet, um sprachlich zusammengehörige Wörter miteinander zu einer größeren Einheit zu verbinden und dabei Raum einzusparen. Die Tilde ersetzt das am Anfang eines solchen größeren Artikels stehende Wort oder den durch einen senkrechten Strich (|) abgetrennten ersten Teil dieses Wortes; z. B.:

belebt ... ~ **heit** (= Belebtheit) ...

Augen|abstand ... ~ **ader** (= Augenader) ... ~ **arzt** (= Augenarzt) ...

~ **blick** (= Augenblick) ... ~ **blicklich** (= augenblicklich)

Der über oder unter einer Tilde stehende Punkt bedeutet dabei, daß ein Stichwort groß (~) oder klein (˘) geschrieben wird.

Figure 1. Sample from Wahrig 1974 showing TILDE WITH DOT ABOVE and TILDE WITH DOT BELOW used as marks of repetition.

Wenn sich die Anfangsbuchstaben ändern (groß zu klein oder umgekehrt), steht statt der Tilde das Zeichen 2 oder 2.

Beispiele:

Brit|e *m*; ~ **in** *f*; 2**isch** *adj.*; **falt|bar** *adj.*; 2-**blatt** *n*; 2**boot** *n*; **höchst...**: 2**wert** *m*; 2**zahl** *f*; ~**zulässig** *adj.*; **Güterstand** *m*: **ehelicher** ~ matrimonial regime; **heilig** *adj.* holy etc.; **der** 2 **Geist** the Holy Ghost; **hängen** *v/i.* hang etc.; 2 *n* hanging; **harsch** *adj.* harsh etc.; 2 *m* crust.

Figure 2. Sample from a dictionary showing TILDE WITH RING used as a mark of repetition.

Fionlainnis, *f.* (*gs.* ~**e**). *Ling.* Finnish.
Fionlannach¹, *m.* (*gs.* & *npl.* -**aigh**, *gpl.* ~).
Finn, Finlander.

Figure 3. Sample from Ó Dónaill 1977 showing SWUNG DASH used as a mark of repetition.

~ vor gewissen Wörtern im Text bezeichnet etymologische Zusammengehörigkeit mit dem vorhergenannten Wort unter Annahme eines Lautwandels im Stamm.

~ zwischen Lautzeichen bezeichnet Lautwechsel.

< und > bezeichnen Lautwandel in der Richtung < von bzw. > zu dem folgenden Laut. Sonst bezeichnen sie Entlehnung.

·/. bezeichnet eine lautlich verschiedene aber stammverwandte Entlehnungsform, welche aus einer verschiedenen Mundart, Sprache oder Zeit herrühren kann.

Figure 5. Sample from Lagercrantz 1939 showing SWUNG DASH used to indicate etymological relationship: “~ before certain words in the text marks etymological relationship with the given word taking on a sound change in the stem” and “~ between phonetic characters indicates sound-change”.

328. TscherW (K) *pəndžə, pə_on^džə*, (J) *ᵑᵑ·nᵑᵑ, ᵑᵑ^dzᵑ*, O (JU) *pü·ndzə*, (CKr.) *ᵑᵑ·ń(ó)žō*, (U) *pü·ńđžə* 'Kiefer', syrj. (auch SO) *požem*, wotj. *pužim* ~ fi. *petäjä*, lp. *bæcce*, mord. *pitše, pitšē*.

Figure 4. Sample from Itkonen 1954 showing SWUNG DASH used to indicate etymological relationship.

vannak jelölve. Legvalószínűbb, hogy *a* ~ *ä*, *u* ~ *ü* közé eső közbülső hangok. A *o* írásban s részben hangzásban is az orosz *и* megfelelője, s tudvalevőleg mély hang (külömben *і*, Budenz cseremisiz szótárában *ї* a jele, de nekem az *o*-t kellett választanom forrásaim miatt); magas hangú megfelelője *ö*, orosz betűvel *и*, melyet Троицкий és WESKE használnak. *o* irrationalis hang; Genetznél egy ' jellel pl. *m'lanem*, az orosz írású szövegek nem jelölik.

Figure 6. Sample from Szilasi 1901 showing an elaborate swash SWUNG DASH used to indicate phonetic alternation.

χāηχältēp ~ χāηyältāp ~ χāηyältēp ~ χāηχältēp ~ χāηχältēp [*χāηχältap*] N, LM *khāηyältēp ~ khaηyältēp*, LU *khōηyältēp*, K *khōηkhältēp ~ khōηkhultēp*, T *khōη-ltāp ~ khōηyältāp ~ khāηyältāp* hágcsó, létra, lépcső | Steige, Leiter, Treppe: LM *kh. khowšt kwäl tärm nukh-khāηyälti* er geht die Steige hinauf ins Haus. – N *χ.-nāk* lépcsőfok | Treppenstufe. – N *χ.-sōrχil*, LM *kh.-sōrkhēl*, K *kh.-sārkhēl ~ sārkhēl*, T *kh.-čārχēl* létrafok | Sprosse. – K *kēr-kh.* vashágcsó | eiserne Leiter. – N *mā-χ.* földlépcső | Erdtreppe
χāηχältapēη N lépcsős | mit Stufen versehen

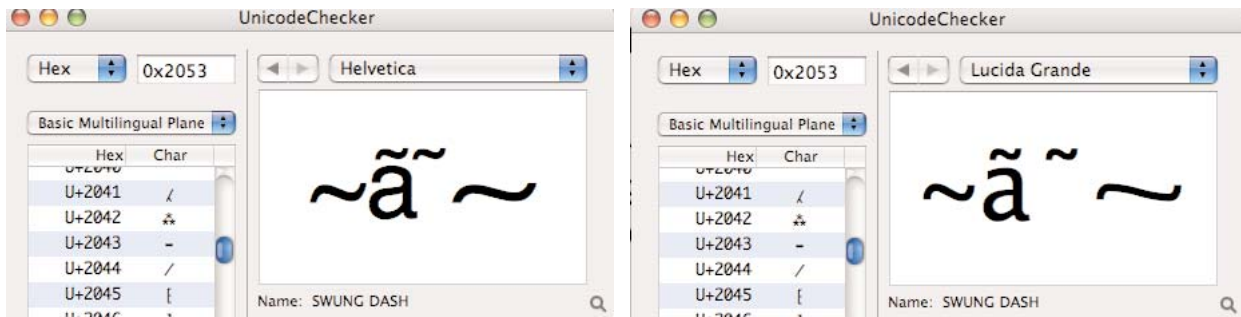
Figure 7. Sample from Munkacsi 1986 showing SWUNG DASH used to indicate phonetic alternation.

wAP *āmvs*, Ä öM *āmōs*, GA. Sg. Ä öM *à^bmîz*, öJPM *ām̃mvs*, Nom. Pl. wAP *ām̃mvsah* ~ *-zah*, Akk. Pl. öJPM *ām̃m^vsîv* Material, Stoff: K *taan ammasast ij läm moozzan kävni* das Material taugte zu nichts; öJPM *kālgū-aammas: tie ličij kālgū-aammas* aus ihr würde eine (gute) Frau; öJPM *kārbis-aammas* Material für ein Boot; öJPM *piutas-aammas* Kleiderstoff; öJPM *saaveeh-aammas* Material für Skier; K *aamnasmuorah*, wAP *amasmuorah* Nutzholz;

Figure 8. Sample from Itkonen 1986 showing SWUNG DASH used to indicate phonetic alternation.

The SWUNG DASH tends to be half again as long as the TILDE, however, and sometimes has fancy curved serifs. In German lexicography, the SWUNG DASH is unknown, and indeed, as shown below, the term used in German is “Tilde”. Figures 1 and 2 above show quite clearly that the German character is much smaller than the typical SWUNG DASH.

Compare also the following character and their glyphs, taken from Helvetica and Lucida Grande, two fonts which ship with the Mac OS:



The characters shown are U+007F TILDE, U+00E3 LATIN SMALL LETTER A WITH TILDE, U+02DC SMALL TILDE, and U+2053 SWUNG DASH. The three German lexicographical characters under ballot are short TILDEs, not long SWUNG DASHes. We have seen no evidence that SWUNG DASH (with or without dots or rings) is used in German lexicography. The names should be changed.

Editorial comments

E1. Page 18, Table 30 - Row 0D: Malayalam. The character U+0D7C MALAYALAM LETTER CHILLU RR is a form that represents both U+0D30 MALAYALAM LETTER RA and U+0D31 MALAYALAM LETTER RRA, and the character U+0D7D MALAYALAM LETTER CHILLU L is a form that represents both U+0D24 MALAYALAM LETTER TA and U+0D32 MALAYALAM LETTER LA (and sometimes U+0D26 MALAYALAM LETTER DA). The confusion has to do with the fact that in pre-pausal position the sounds fell together. We propose that the characters be annotated as follows:

MALAYALAM LETTER CILLU RR

- = historically derived from the full letter ra
- = often used for chillu r

MALAYALAM LETTER CILLU L

- = historically derived from the full letter ta
- = used for chillu t and sometimes for chillu d

E2. Page 24, Table 71 - Row 1E: Latin Extended Additional. Ireland requests that the glyph of U+1E9E LATIN CAPITAL LETTER SHARP S be changed from the glyph on the left to the glyph on the right.

Œ → Œ

E3. Row 03: Combining Diacritical Marks. Ireland has been made aware of a glyph error in the code charts for Unicode Version 5.0, the glyphs for U+0333 and U+0347 are incorrect. The following should be used:

◌̃ ◌̃

Row 2E: SUPPLEMENTAL PUNCTUATION

	2E0	2E1	2E2	2E3	2E4	2E5	2E6	2E7
0	⌈	⌋	⌌	◦				
1	⌈̇	⌋̇	⌌̇					
2	⌈̂	⌋̂	⌌̂					
3	⌈̃	⌋̃	⌌̃					
4	⌈̄	⌋̄	⌌̄					
5	⌈̅	⌋̅	⌌̅					
6	⌈̆	⌋̆	⌌̆					
7	⌈̇	⌋̇	⌌̇					
8	⌈̈	⌋̈	⌌̈					
9	⌈̉	⌋̉	⌌̉					
A	⌈̊	⌋̊	⌌̊					
B	⌈̋	⌋̋	⌌̋					
C	⌈̌	⌋̌	⌌̌					
D	⌈̍	⌋̍	⌌̍					
E	⌈̎	⌋̎	⌌̎					
F	⌈̏	⌋̏	⌌̏					

2E1A HYPHEN WITH DIAERESIS
 2E1B TILDE WITH RING ABOVE
 2E1E TILDE WITH DOT ABOVE
 2E1F TILDE WITH DOT BELOW
 2E20 LEFT VERTICAL BAR WITH QUILL
 2E21 RIGHT VERTICAL BAR WITH QUILL
 2E22 TOP LEFT HALF BRACKET
 2E23 TOP RIGHT HALF BRACKET
 2E24 BOTTOM LEFT HALF BRACKET
 2E25 BOTTOM RIGHT HALF BRACKET
 2E26 LEFT SIDEWAYS U BRACKET
 2E27 RIGHT SIDEWAYS U BRACKET
 2E28 LEFT DOUBLE PARENTHESIS
 2E29 RIGHT DOUBLE PARENTHESIS
 2E2A TWO DOTS OVER ONE DOT PUNCTUATION
 2E2B ONE DOT OVER TWO DOTS PUNCTUATION
 2E2C SQUARED FOUR DOT PUNCTUATION
 2E2D FIVE DOT MARK
 2E2E REVERSED QUESTION MARK
 2E2F VERTICAL TILDE
 2E30 RING POINT

2E1A;HYPHEN WITH DIAERESIS;Pd;0;ON;;;;;N;;;;;
 2E1B;TILDE WITH RING ABOVE;Pd;0;ON;;;;;N;;;;;
 2E1E;TILDE WITH DOT ABOVE;Pd;0;ON;;;;;N;;;;;
 2E1F;TILDE WITH DOT BELOW;Pd;0;ON;;;;;N;;;;;
 2E20;LEFT VERTICAL BAR WITH QUILL;Pi;0;ON;;;;;Y;;;;;
 2E21;RIGHT VERTICAL BAR WITH QUILL;Pf;0;ON;;;;;Y;;;;;
 2E22;TOP LEFT HALF BRACKET;Ps;0;ON;;;;;Y;;;;;
 2E23;TOP RIGHT HALF BRACKET;Pe;0;ON;;;;;Y;;;;;
 2E24;BOTTOM LEFT HALF BRACKET;Ps;0;ON;;;;;Y;;;;;
 2E25;BOTTOM RIGHT HALF BRACKET;Pe;0;ON;;;;;Y;;;;;
 2E26;LEFT SIDEWAYS U BRACKET;Ps;0;ON;;;;;Y;;;;;
 2E27;RIGHT SIDEWAYS U BRACKET;Pe;0;ON;;;;;Y;;;;;
 2E28;LEFT DOUBLE PARENTHESIS;Ps;0;ON;;;;;Y;;;;;
 2E29;RIGHT DOUBLE PARENTHESIS;Pe;0;ON;;;;;Y;;;;;
 2E2A;TWO DOTS OVER ONE DOT PUNCTUATION;Po;0;ON;;;;;N;;;;;
 2E2B;ONE DOT OVER TWO DOTS PUNCTUATION;Po;0;ON;;;;;N;;;;;
 2E2C;SQUARED FOUR DOT PUNCTUATION;Po;0;ON;;;;;N;;;;;
 2E2D;FIVE DOT MARK;Po;0;ON;;;;;N;;;;;
 2E2E;REVERSED QUESTION MARK;Po;0;ON;;;;;N;;;;;
 2E2F;VERTICAL TILDE;Po;0;ON;;;;;N;;;;;
 2E30;RING POINT;Po;0;ON;;;;;N;;;;;

Attachment 3

Japan votes against SC2 N3943 (ISO/IEC 10646:2003 FPDAM4) with the following comments. Japan will change its vote if they are accepted accordingly.

Regarding the addition of a new character CJK UNIFIED IDEOGRAPH-9FC3, the following two points are inappropriate and should be fixed:

(a) The G source reference "G_KX0809" looks strange. The number seems to represent a page of Kangxi dictionary, but the page shows both 93FC and 4039 (where the new character was considered to be unified before). It is not helpful for identification of the character to say "on page 0809". It should say something like "G_KX0809.020". If the detailed identification is not needed here, it should simply say "G_KX".

(b) Because the KP source for the new 9FC3 is moved from a compatibility ideograph FAD4, the file CJKC_SR.txt should be updated as well as CJKU_SR.txt, with the following instruction:

Remove the KP1-5E2B source from 0FAD4 entry in CJKC_SR.txt

The UK votes to APPROVE the amendment, with the following technical comments.

TECHNICAL COMMENTS

T.1 Page 2 : Source references for CJK Unified Ideographs

"Remove the T4-3946 source from 04039 entry;"

In addition to removing the T4-3946 source reference from 04039, it was agreed in Resolution M50.20 to add the T6-4B7A source reference (originally for 2F949) to 04039. Therefore the above line should be changed to something like

"Replace the T4-3946 source in the 04039 entry with T6-4B7A;"

and the entry for 04039 in CJKU_SR.txt changed to

04039;G3-5952;T6-4B7A;J4-7222;;;H-98E6;KP1-5E34;;

T.2 Page 3 : G Source Reference for 09FC3

The new G-source reference for 09FC3 is given as "G_KX0809" in the multi-column chart on page 3, but in CJKU_SR.txt it is given as "G_KX00809", and in Resolution M50.20 it is "G_KX0809.020". In fact, on the basis of the format of the G_KX source references in Amd.5 (G_KXppppnn, where pppp is the page number and nn is the position of the character on this page), we believe that the source reference should be "G_KX080902" (i.e. second character on page 809 of the Kangxi Dictionary). The multi-column chart on page 3 and the contents of CJKU_SR.txt should both be amended to specify "G_KX080902".

In addition, as this is a new source reference format, the description of "2nd field: Hanzi G sources" in Sub-clause 27.1 (Source references for CJK Unified Ideographs) should be amended to add "(G_KXdddddd)" after "(G_KX)".

