

Title: CJK & Unihan Working Group Recommendations for UTC Meeting #189

Author: Ken Lunde

Date: 2026-10-19

This document provides the CJK & Unihan Working Group recommendations for UTC Meeting #189, based on a meeting that took place on 2026-10-09 from 6 to 7:45PM PDT, which was attended by Yi Bai, Eiso Chan, Peter Constable, Kushim Jiang, Ken Lunde, William Nelson, Roozbeh Pournader, CheonHyeong Sim, Hong Sng, Stephan Hyeonjun Stiller, Toshiya Suzuki, Harald Tveiten, Xieyang Wang, and Yifán Wáng via Webex. The Chair of the [CJK & Unihan Working Group](#), Ken Lunde, chaired the meeting.

The CJK & Unihan Working Group reviewed public feedback and documents that were received since UTC Meeting #188 took place. Comments are marked in **green**, and Recommendations to the UTC are marked in **red**. A “plain text” Copy&Paste-ready version of the Recommendations is also provided as the PDF attachment named *recommendations-20261009.txt*.

PRI #556 Feedback

The two items of [PRI #556](#) (*Other feedback for UTC #189*) feedback that are in this section were reviewed and discussed by the WG.

01) ID20260923180514

Date/Time: Wed Sep 23 18:05:14 PT 2026

ReportID: ID20260923180514

Name: Ken Lunde

Report Type: Report Error in Publication/Data

Opt Subject: **PRI #556 Feedback (UAX #60)**

The Syntax for the *kJURC_Src* property in UAX #60 should be adjusted to unescape the three instances of an escaped colon (\:) as follows:

NC:\d{3}\.\d{2}(,\d{3}\.\d{2})?

| SJ-B:\d{3}[A-Z]\.\d

| JJ:\d{3}

| N5131:X-\d{4}

The first instance of a colon is unescaped.

Comments: The WG reviewed and discussed this feedback, and agreed that the Syntax of the normative *kJURC_Src* property in UAX #60 should be updated per the PRI #556 feedback with Unicode Version 19.0 as the target.

Recommendations: The WG recommends to the UTC the following disposition ➡

Consensus: Accept the proposal to adjust the syntax of the normative kJURC_Src property, based on PRI #556 feedback [ID20260923180514] and Section 01 of document L2/26-238, for Unicode Version 19.0.

Action Item for Michel Suignard, SAH: Prepare a Proposed Update of UAX #60 that adjusts the Syntax of the kJURC_Src property, based on PRI #556 feedback [ID20260923180514] and Section 01 of document L2/26-238, for Unicode Version 19.0.

Action Item for Michelle Perham, RMG: Post the Proposed Update of UAX #60 as a new PRI with 2026-12-30 as the closing date, based on PRI #556 feedback [ID20260923180514] and Section 01 of document L2/26-238.

02) ID20260923213502

Date/Time: Wed Sep 23 21:35:02 PT 2026

ReportID: ID20260923213502

Name: suzuki toshiya

Report Type: Report Error in Publication/Data

Opt Subject: **Small typos in UAX#60**

I found a few trivial typos in UAX#60 revision 3, please consider the updates in some future revision.

4.1 Jurchen

In the "Default" column of "kJURC_Numeric", the value is "N". I guess "N/A" can be harmonizing with other cases.

4.2 Nüshu

In the "Description" column of "kNSHU_Reading", there is lower-cased "ascii". The upper-cased "ASCII" can be harmonizing with 2.1 (...consists entirely of ASCII letters and...).

4.4 Tangut

In the "Description" column of "kTGT_MergedSrc", there is an extra space in "西夏語の研 究", between "研" and "究". "西夏語の研究" would look better.

In the "Description" column of "kTGT_Numeric", there is an extra space in the ISBN number "ISBN 978-7- 5490-1785-0". Between "-7-" and "5490". "ISBN 978-7-5490-1785-0" would look better.

Comments: The WG reviewed and discussed this feedback, and agreed that the proposed editorial changes should be made to UAX #60 with Unicode Version 19.0 as the target.

Recommendations: The WG recommends to the UTC the following disposition ➡

Action Item for Michel Suignard, SAH: Update UAX #60, based on PRI #556 feedback [ID20260923213502] and Section 02 of document L2/26-238, for Unicode Version 19.0.

PRI #557 Feedback

PRI #557 (*Proposed Update UAX #11*) was issued shortly after Unicode Version 18.0 was released, but no feedback was received prior to its closing date of 2026-10-05.

PRI #558 Feedback

The three items of PRI #558 (*Proposed Update UAX #38*) feedback that are in this section were reviewed and discussed by the WG, and for convenience, the following data files, which are PDF attachments, include the recommended UniHan database additions and changes based on them, along with the recommended UAX #45 *USourceData.txt* data file changes:

- *Unihan-additions-20261009.txt*
- *Unihan-changes-20261009.txt*
- *Unihan_IRGSources-changes-20261009.txt*
- *USource-changes-20261009.txt*

The recommended UniHan database additions and changes, along with the recommended UAX #45 *USourceData.txt* data file changes, are also shown inline, following the **Recommendations**.

03) ID20260920104429

Date/Time: Sun Sep 20 10:44:29 PT 2026

ReportID: ID20260920104429

Name: Ken Lunde

Report Type: PRI Feedback

Opt Subject: **PRI 558 Feedback**

Per the discussion record for IRG Working Set 2021 #00578 (aka UTC-03216), the *kIRG_USource* property value of U+2BAD5 should be changed from UTC-00561 to UTC-03216:

<https://hc.jsecs.org/irg/ws2021/app/index.php?id=00578>

Its *kTotalStrokes* property value should also be changed from 13 to 14.

Comments: The WG reviewed and discussed this feedback, and agreed that the normative *kIRG_USource* property value of U+2BAD5 𪛗 should be changed from UTC-00561 to UTC-03216 per the discussion record for [IRG Working Set 2021 #00578](#). Completely independent of this change, the WG also agreed that the informative *kTotalStrokes* property value of U+2BAD5 𪛗 should be changed from 13 to 14 (its informative *kRSUnicode* property value is 30.11, and given that Radical #30 𠂇 consists of three strokes, 13 is obviously incorrect). Unicode Version 19.0 should be the target for both changes. If accepted, this *kIRG_USource* property value change will also result in a representative glyph change (the U-source representative glyphs for UTC-00561 and UTC-03216 are shown below).

𪛗 𪛗

The WG also noted that these changes require minor adjustments to the records for UTC-00561 and UTC-03216 in the UAX #45 *USourceData.txt* data file.

Recommendations: The WG recommends to the UTC the following disposition ➡

Consensus: Accept the proposal to change the normative `kIRG_USource` property value of U+2BAD5 from UTC-00561 to UTC-03216 and to change the informative `kTotalStrokes` property value of U+2BAD5 from 13 to 14, based on PRI #558 feedback [ID20260920104429] and Section 03 of document L2/26-238, for Unicode Version 19.0.

Consensus: Accept the proposal to change the U-source representative glyph for U+2BAD5, based on PRI #558 feedback [ID20260920104429] and Section 03 of document L2/26-238, for Unicode Version 19.0.

Action Item for Ken Lunde, CJK: Update the UniHan database to change the `kIRG_USource` property value of U+2BAD5 from UTC-00561 to UTC-03216 and to change the `kTotalStrokes` property value of U+2BAD5 from 13 to 14, based on PRI #558 feedback [ID20260920104429] and Section 03 of document L2/26-238, for Unicode Version 19.0.

Action Item for Ken Lunde, CJK: Update the UAX #45 TrueType font to change the mapping for U+2BAD5 from the glyph for UTC-00561 to the glyph for UTC-03216, then provide the updated UAX #45 TrueType font to Michel Suignard and the Charts Working Group, based on PRI #558 feedback [ID20260920104429] and Section 03 of document L2/26-238, for Unicode Version 19.0.

Action Item for Michel Suignard, CHARTS: Apply the U-source representative glyph change to U+2BAD5 with an updated TrueType font provided by Ken Lunde, based on PRI #558 feedback [ID20260920104429] and Section 03 of document L2/26-238, for Unicode Version 19.0.

Action Item for Ken Lunde, CJK: Update the records for UTC-00561 and UTC-03216 in the UAX #45 *USourceData.txt* data file, based on PRI #558 feedback [ID20260920104429] and Section 03 of document L2/26-238, for Unicode Version 19.0.

Current:

U+2BAD5	<code>kIRG_USource</code>	UTC-00561
U+2BAD5	<code>kTotalStrokes</code>	13

Adjusted:

U+2BAD5	<code>kIRG_USource</code>	UTC- 03216
U+2BAD5	<code>kTotalStrokes</code>	14

Current—*USourceData.txt*:

```
UTC-00561;ExtE;U+2BAD5;30.11;;口木廷;kCheungBauerIndex 379.04;;14;1
UTC-03216;Variant;U+2BAD5;30.11;;口梃;UTCDoc L2/20-093 2;kCantonese
ting2;kDefinition (Cant.) a kind, type, sort;14;1
```

Adjusted—*USourceData.txt*:

```
UTC-00561;Variant;U+2BAD5;30.11;;口木廷;kCheungBauerIndex 379.04;;14;1
UTC-03216;ExtE;U+2BAD5;30.11;;口梃;UTCDoc L2/20-093 2;kCantonese
ting2;kDefinition (Cant.) a kind, type, sort;14;1
```

04) ID20260924045759

Date/Time: Thu Sep 24 04:57:59 PT 2026

ReportID: ID20260924045759

Name: Harriet Riddle

Report Type: PRI Feedback

Opt Subject: **PRI 558**

Some more candidates for potential kSpoofingVariant and/or kZVariant properties:

U+5C22 ↔ U+21BC1 (especially their J-source glyphs)

U+8A00 ↔ U+8A01; U+91D1 ↔ U+91D2 (trivial positional display forms from GB/T 12345, which includes them because GB/T 2312 includes nontrivial positional simplified forms). Note also that U+8A01's and U+91D2's `kCCCII` properties point to characters in a range of Kangxi radicals, with glyphs closer to U+8A00 (or U+2F94) and U+91D1 (or U+2FA6).

U+98DF ↔ U+98E0 ↔ U+2967F (UCV #358). Also, the same consideration with U+98E0's `kCCCII` value as above.

U+21E8F ↔ U+2DB4D

U+25A3F ↔ U+32ABD

U+9FBA ↔ U+2099D; U+470C ↔ U+9FBB (trivial positional forms from GBK 1.0, discussed in ISO 10646 Annex P)

U+9FB9 ↔ U+20509 (UCV #26; also, mentioned in ISO 10646 Annex P along with the two pairs above)

(Sidenote: it came to my attention while writing this up that U+9FB9 is rendered in "AR PL UMing CN", as provided e.g. by the Debian/Ubuntu package "fonts-arphic-uming", with a glyph closer to U+215D7, which it also includes with a very similar glyph; it doesn't include a glyph for U+20509. This is primarily a font issue (considering the closest UCV would be #188b, which isn't close), but may or may not impact pragmatic spoofing-variant considerations.)

The table for `kIRG\_GSource` still mentions Singapore in the paragraph before the list of prefixes, even though the only prefix related to Singapore is no longer included in that list due to the introduction of the separate `kIRG\_SGSource` property.

The description for the `kHangul` property could be expanded to cross-reference the `kKoreanEducationHanja` and `kKoreanName` properties as corresponding to its "E" and "N" source specifiers respectively (compare how the description for the `kCantonese` property names the Unihan properties corresponding to the sources which it cites).

Section 2.1.1 mentions `kTotalStrokes` as one of the Unihan properties which `Equivalent\_Unified\_Ideograph` can be used to apply to non-CJKUI characters. However, for example, the total-stroke count for U+2ECF (i.e. 2 or 3) is very different from that of its `Equivalent\_Unified\_Ideograph` U+9091 (i.e. 7, as correctly reflected by its `kTotalStrokes` property value).

Comments: The WG reviewed and discussed this feedback. For the first item, all of the pairs and triplets can be added as confusables if they are not already. In terms of the Unihan database, the WG recommends only the changes and additions that are shown at the end of this section, after the recommendations.

For the second and third items, PRI #558 (*Proposed Update UAX #38*) was updated on 2026-09-27 to reflect the changes.

For the fourth item, the WG recommends that the *Equivalent_Unified_Ideograph* property value of U+2ECF 𠄎 CJK RADICAL CITY not be changed, because changing it from U+9091 𠄎 to U+961D 𠄎 would change the corresponding *kRSUnicode* property value, from 163.0 to 170.0. Instead, the WG recommends that Section 2.1.1 of UAX #38 be updated to clarify that some cases may result in an unexpected *kTotalStrokes* property value, citing the *Equivalent_Unified_Ideograph* property value of U+2ECF 𠄎 CJK RADICAL CITY, U+9091 𠄎, as an example whereby the radical has three strokes, but its equivalent ideograph has seven strokes.

Recommendations: The WG recommends to the UTC the following disposition ➡

Action Item for Ken Lunde, CJK: Update the Unihan database to change four *kSemanticVariant* property values, to add eight *kSemanticVariant* property values, and to add four *kSpoofingVariant* property values, based on PRI #558 feedback [ID20260924045759], and as amended in Section 04 of document L2/26-238, for Unicode Version 19.0.

Action Item for Ken Lunde, CJK: Update PRI #558 (aka Proposed Update UAX #38), Section 2.1.1, to clarify that the *kTotalStrokes* property value of an ideograph identified by the *Equivalent_Unified_Ideograph* property does not necessarily reflect the stroke count of the original radical or stroke character, citing U+2ECF and U+9091 as an example, based on PRI #558 feedback [ID20260924045759], and as amended in Section 04 of document L2/26-238, for Unicode Version 19.0.

Action Item for Josh Hadley, Roozbeh Pournader, PAG: Update the UTS #39 confusables.txt data file by adding U+470C/U+9FBB, U+5C22/U+21BC1, U+8A00/U+8A01, U+91D1/U+91D2, U+98DF/U+98E0/U+2967F, U+9FB9/U+20509, U+9FBA/U+2099D, U+21E8F/U+2DB4D, and U+25A3F/U+32ABD as new confusable pairs or triplets, based on PRI #558 feedback [ID20260924045759], and as amended in Section 04 of document L2/26-238, for a future version of the standard.

Action Item for Ken Lunde, CJK: Convey to the feedback submitter the CJK & Unihan Working Group comments in Section 04 of document L2/26-238. See PRI #558 feedback [ID20260924045759].

Current:

U+5C22	<i>kSemanticVariant</i>	U+5C23< <i>kMatthews</i>
U+5C23	<i>kSemanticVariant</i>	U+5C22< <i>kMatthews</i>
U+98DF	<i>kSemanticVariant</i>	U+98E0< <i>kMatthews</i>
U+98E0	<i>kSemanticVariant</i>	U+98DF< <i>kMatthews</i>

Adjusted:

U+5C22	<i>kSemanticVariant</i>	U+5C23< <i>kMatthews</i>	U+21BC1
U+5C23	<i>kSemanticVariant</i>	U+5C22< <i>kMatthews</i>	U+21BC1
U+98DF	<i>kSemanticVariant</i>	U+98E0< <i>kMatthews</i>	U+2967F

U+98E0 kSemanticVariant U+98DF<kMatthews **U+2967F**

New:

U+470C	kSemanticVariant	U+9FBB
U+9FB9	kSemanticVariant	U+20509
U+9FBA	kSemanticVariant	U+2099D
U+9FBB	kSemanticVariant	U+470C
U+20509	kSemanticVariant	U+9FB9
U+2099D	kSemanticVariant	U+9FBA
U+21BC1	kSemanticVariant	U+5C22 U+5C23
U+21E8F	kSpoofingVariant	U+2DB4D
U+25A3F	kSpoofingVariant	U+32ABD
U+2967F	kSemanticVariant	U+98DF U+98E0
U+2DB4D	kSpoofingVariant	U+21E8F
U+32ABD	kSpoofingVariant	U+25A3F

05) ID20261012105321

Date/Time: Mon Oct 12 10:53:21 PT 2026

ReportID: ID20261012105321

Name: Kelly Hsueh

Report Type: PRI Feedback

Opt Subject: **Error in UAX #38 for U+80E7**

U+80E7 (肱) is categorised under Radical #130 肉 (meat). However, it should be #74 月 (moon), just like its kTraditionalVariant (U+6727 肱). #74 月 (moon) is also in line with its kDefinition (condition or appearance of moon). It is under 月 (moon) radical (page 66, line 7) in GB/T 2312-1980 as well (the kIRG_GSource of U+80E7 is G0-6B4A and G0 is GB/T 2312-1980).

Its kRSUnicode value should be changed from 130.5 to 74.5, changing radical from #130 肉 (meat) to # 74 月 (moon).

Its kKangXi value should be changed as well. Its current value is 0980.141, which indicates that it's not in this dictionary (for sure) and assigned to 肉 (meat) radical, so its new value should be redesigned. I don't have the used edition Kangxi Dictionary in reach, so I cannot provide the new value. For reference, in the version I used, I found that 肱 (U+6727) exists under both 肉 (meat) and 月 (moon). I guess this may indicate that the incorrect entry was used by mistake.

Comments: The WG reviewed and discussed this feedback, and agreed that the informative *kRSUnicode* property value of U+80E7 肱 should be changed from 130.5 to 74.5 with Unicode Version 19.0 as the target. In addition, the WG noted that its provisional *kKangXi* property value should be changed from 0980.141 to 0505.111, and this change should also be targeted for Unicode Version 19.0. The WG also noted that the *kRSUnicode* property value error has been in the UniHan database from the very beginning.

Recommendations: The WG recommends to the UTC the following disposition ➡

Consensus: Accept the proposal to change the informative *kRSUnicode* property value of U+80E7 from 130.5 to 74.5, based on PRI #558 feedback [ID20261012105321] and Section 05 of document L2/26-238, for Unicode Version 19.0.

Action Item for Ken Lunde, CJK: Update the Unihan database to change the kRSUnicode property value of U+80E7 from 130.5 to 74.5 and to change the kKangXi property value of U+80E7 from 0980.141 to 0505.111, based on PRI #558 feedback [ID20261012105321] and Section 05 of document L2/26-238, for Unicode Version 19.0.

Action Item for Ken Lunde, CJK: Convey to the feedback submitter the CJK & Unihan Working Group comments in Section 05 of document L2/26-238. See PRI #558 feedback [ID20261012105321].

Current:

U+80E7	kKangXi	0980.141
U+80E7	kRSUnicode	130.5

Adjusted:

U+80E7	kKangXi	0505.111
U+80E7	kRSUnicode	74.5

PRI #559 Feedback

The single item of [PRI #559](#) (*Proposed Update UAX #45*) feedback that is in this section was reviewed and discussed by the WG.

06) ID20260914171849

Date/Time: Mon Sep 14 17:18:49 PT 2026

ReportID: ID20260914171849

Name: Harriet Riddle

Report Type: PRI feedback

Opt Subject: **PRI #559 [CJK]**

The following `USourceData.txt` entries reference the Shuowen Jiezi using a different format to the format used by the Seal block's source references. For ease of cross-referencing to the Seal block, here's the correspondence (so far as I can ascertain), which could be added to `USourceData.txt` should that prove helpful:

UTC-00086;DYC 627.111;K-09042 # DYC 627.111 is also listed by UTC-00149 (D-09020)

UTC-00087;DYC 637.220;D-09119

UTC-00090;DYC 270.341;D-04261

UTC-00091;DYC 270.341;K-04280 # DYC 270.341 is also listed by UTC-00090 (D-04261)

UTC-00092;DYC 458.310;D-06679

UTC-00093;DYC 120.315;D-02167

UTC-00094;DYC 136.420;D-02435

UTC-00095;DYC 137.211;D-02441

UTC-00120;DYC 021.310;D-02105 # See remarks below.

UTC-00121;DYC 041.311;D-00608

UTC-00122;DYC 058.330;D-00933
UTC-00123;DYC 103.410;D-01872
UTC-00124;DYC 137.221;D-02443
UTC-00125;DYC 138.130;D-02454
UTC-00126;DYC 163.430;D-02819
UTC-00128;DYC 183.220;D-03100
UTC-00129;DYC 183.220;K-03122 # DYC 183.220 is also listed by UTC-00128
(D-03100)
UTC-00130;DYC 200.411;D-03341
UTC-00131;DYC 242.130;D-03866
UTC-00132;DYC 251.140;D-04008
UTC-00133;DYC 267.410;D-04217
UTC-00134;DYC 274.110;D-04300 # DYC 274.110 also listed by UTC-00135, which
isn't the D-04300 glyph
UTC-00136;DYC 275.410;D-04323
UTC-00137;DYC 342.112;D-05101
UTC-00138;DYC 350.310;D-05233
UTC-00139;DYC 351.231;D-05251
UTC-00140;DYC 354.410;D-05305
UTC-00141;DYC 440.410;D-06435
UTC-00142;DYC 456.212;D-06644
UTC-00143;DYC 484.412;D-07063
UTC-00144;DYC 496.210;D-07229
UTC-00145;DYC 515.111;D-07570
UTC-00146;DYC 551.210;D-07827
UTC-00147;DYC 575.112;D-08023
UTC-00148;DYC 627.110;D-09019
UTC-00149;DYC 627.111;D-09020
UTC-00150;DYC 642.210;D-09193
UTC-00151;DYC 643.321;D-09207
UTC-00152;DYC 646.121;D-09246
UTC-00153;DYC 656.121;D-09380
UTC-00154;DYC 675.410;D-09693
UTC-00155;DYC 675.411;D-09694
UTC-00156;DYC 678.150;D-09724
UTC-00157;DYC 680.121;D-09751
UTC-00158;DYC 694.212;D-09925
UTC-00159;DYC 722.320;D-10315
UTC-00160;DYC 739.210;D-10532

UTC-00282;DYC 308.441;D-04706

UTC-00286;DYC 341.410;D-05094

UTC-00287;DYC 510.441;D-07469

UTC-00316;DYC 074.130;D-01258

UTC-00319;DYC 070.231;D-01166

UTC-00320;DYC 054.221;D-00834

UTC-00321;DYC 047.411;D-00740

UTC-00322;DYC 051.240;D-00790 # Not D-00790 ref. glyph, but is to K-00800 as D-06524 is to K-06548

UTC-00323;DYC 660.331;D-09459

UTC-00324;DYC 665.230;D-09532

UTC-00325;DYC 678.410;D-09732

Since UTC-00120 is U+4DB9, it corresponds to D-02105, but the page number of the reference `DYC 021.310` appears anomalous in that case. My understanding of what is happening there is that the Seal block includes each distinct glyph form exactly once and that, if it was listed by the Shuowen Jiezi both as an independent character and elsewhere as a variant form of another character, its listing as an independent character was preferred. Thus, a listing of the D-02105 glyph as a variant after D-00256 would have been skipped over in the Seal block's numbering.

I have been unable to ascertain how UTC-00089 and UTC-00127 relate to the Seal block's source references.

Comments: The WG reviewed and discussed this feedback, and agreed that the WG should consider adjustments based on this feedback in the future. No UTC action is necessary other than to convey to the feedback submitter the comments in this section.

Recommendations: The WG recommends to the UTC the following disposition ➡

Action Item for Ken Lunde, CJK: Convey to the feedback submitter the CJK & Unihan Working Group comments in Section 06 of document L2/26-238. See PRI #559 feedback [ID20260914171849].

PRI #560 Feedback

PRI #560 (*Proposed Update UAX #50*) was issued shortly after Unicode Version 18.0 was released, but no feedback was received prior to its closing date of 2026-10-05.

UAX #38 / Unihan Database Documents

The single UTC document in this section was reviewed and discussed by the WG.

07) L2/26-216: Proposal to add the provisional kTabooVariant property to the Unihan database

Comments: The WG reviewed and discussed this document, and agreed that 1) it may be more intuitive if the taboo variants were assigned a property value that corresponds to the code point of the standard form, which effectively means reversing the mapping, in which case “kTabooVariantOf” may be a better property value name; 2) the Definition should clarify which element in the mapping of a record—from or to—was considered taboo; 3) the rules for selecting taboo variants should be more strict, such as to exclude ones that also serve as normal Han ideographs; and 4) standardized identifier strings for regions and periods should be entered into a registry to prevent inconsistencies.

Recommendations: The WG recommends to the UTC the following disposition ➡

Action Item for Ken Lunde, CJK: Convey to the author of document L2/26-216 the CJK & Unihan Working Group comments in Section 07 of document L2/26-238.

UTC Documents

The two UTC documents in this section were reviewed and discussed by the WG, and for convenience, the following data file, which is a PDF attachment, includes the recommended UCD *SealSources.txt* data file additions based on the second document:

- *kSEAL_AdditionalSrc-20261009.txt*

The recommended UCD *SealSources.txt* data file additions are also shown inline, following the **Recommendations**.

08) L2/26-205: Call for members of SC 2/Advisory Group (AG) 1, Ideographic Research Group (IRG) [SC 2 N5065]

Comments: While this is an FYI document for the UTC, mainly because the call for members ended on 2026-09-18, the Convenor of SC 2/AG 1 (IRG), who is also the Chair of this WG, noted that the following experts have thus far been appointed to this new advisory group that will one day replace SC 2/WG 2/IRG:

ANSI (US): 6
BSI (UK): 1
HKITF (Category C liaison): 16
JISC (Japan): 6
KATS (ROK): 8
SAC (China): 3
SAT (Category C liaison): 2
TCA (Category C liaison): 6

Unicode (Category A liaison): 1

W3C (Category C liaison): 1

Recommendations: The WG recommends to the UTC the following disposition ➡

No UTC action is required.

09) L2/26-218: Proposal to Add “kSEAL_AdditionalSrc” Property to SealSources.txt

Comments: The WG reviewed and discussed this proposal, and agreed that adding this new provisional property to the UCD’s *SealSources.txt* data file has value. The WG also noted that at the top of page 3 of the document there are two bullet points that describe alternatives. The WG agreed with the proposal author that the proposed property is the better solution for providing additional source references for ones that were omitted due to duplicate glyphs in a source, mainly because the alternative solutions involve the mixing of normative and provisional data. In addition, the proposal author discussed this proposal with some IRG experts during IRG Meeting #67, and their feedback was positive.

Recommendations: The WG recommends to the UTC the following disposition ➡

Consensus: Accept the new provisional property, kSEAL_AdditionalSrc, based on document L2/26-218 (Suzuki) and Section 09 of document L2/26-238, for Unicode Version 19.0.

Action Item for Michel Suignard, PAG: Update the UCD’s SealSources.txt data file to add the kSEAL_AdditionalSrc property data, based on document L2/26-218 and Section 09 of document L2/26-238, for Unicode Version 19.0.

Action Item for Michel Suignard, SAH: Update Sections 3, 3.5, and 4.3 of UAX #60 to add the kSEAL_AdditionalSrc property, based on document L2/26-218 and Section 09 of document L2/26-238, for Unicode Version 19.0.

Action Item for John Wilcock, PAG: Add the kSEAL_AdditionalSrc property to UAX #42, based on document L2/26-218 and Section 09 of document L2/26-238, for Unicode Version 19.0.

Action Item for Ken Lunde, CJK: Convey to the author of document L2/26-218 the CJK & UniHan Working Group comments in Section 09 of document L2/26-238.

New:

U+3D1B6	kSEAL_AdditionalSrc	K-00729
U+3D228	kSEAL_AdditionalSrc	K-07013 D-06991
U+3D3AB	kSEAL_AdditionalSrc	TH-06060 C-06277 K-06094 D-06050
U+3D3DD	kSEAL_AdditionalSrc	TH-02078 C-02157 K-02083 D-02061
U+3D406	kSEAL_AdditionalSrc	TH-03407 C-03518 K-03416 D-03397
U+3D421	kSEAL_AdditionalSrc	TH-08352 C-08670 K-08365 D-08341
U+3D43C	kSEAL_AdditionalSrc	D-07635
U+3D626	kSEAL_AdditionalSrc	C-06138
U+3D685	kSEAL_AdditionalSrc	D-05181
U+3D72D	kSEAL_AdditionalSrc	TH-01791 C-01856
U+3D72E	kSEAL_AdditionalSrc	TH-01790 C-01855
U+3DB65	kSEAL_AdditionalSrc	TH-04307 C-04439 K-04314 D-04292
U+3DC96	kSEAL_AdditionalSrc	TH-02259 C-02340 K-02266 D-02244
U+3DE12	kSEAL_AdditionalSrc	TH-07327 C-07601 K-07341 D-07315

U+3DE72	kSEAL_AdditionalSrc	D-00636
U+3DE73	kSEAL_AdditionalSrc	D-00637
U+3E003	kSEAL_AdditionalSrc	TH-04191 C-04311 D-04175
U+3E0B3	kSEAL_AdditionalSrc	K-10163 D-10147
U+3E923	kSEAL_AdditionalSrc	TH-01029 C-01062 K-01035 D-01023
U+3ED9C	kSEAL_AdditionalSrc	K-07050
U+3EE4E	kSEAL_AdditionalSrc	TH-00899 C-00932 K-00906 D-00894
U+3EE9D	kSEAL_AdditionalSrc	K-07254
U+3EFE3	kSEAL_AdditionalSrc	TH-00881 C-00914 K-00887 D-00876
U+3F2C6	kSEAL_AdditionalSrc	K-04276
U+3F322	kSEAL_AdditionalSrc	TH-02063 C-02141 K-02068 D-02046
U+3F38D	kSEAL_AdditionalSrc	K-03818 D-03795
U+3F4EA	kSEAL_AdditionalSrc	D-08865
U+3F792	kSEAL_AdditionalSrc	TH-09707 C-10070 K-09722 D-09705
U+3FADF	kSEAL_AdditionalSrc	TH-05346 C-05517 K-05355 D-05334
U+3FB61	kSEAL_AdditionalSrc	TH-05054 C-05222 K-05061 D-05039

IRG Documents

The 10 IRG documents in this section were reviewed and discussed by the WG, and for convenience, the following data files, which are PDF attachments, include the recommended UniHan database additions and changes based on them:

- *kMandarin-additions-20261009.txt*
- *UniHan_IRGSources-additions-20261009.txt*
- *UniHan_IRGSources-changes-20261009.txt*
- *UniHan-additions-20261009.txt*

With the exception of the *kMandarin* property value additions and the four horizontal extensions, the recommended UniHan database additions and changes are also shown inline, following the **Recommendations**.

10) IRG N2944: US/Unicode Activity Report for IRG Meeting #67 [L2/26-215]

Comments: This document is the UTC's activity report as delivered during IRG Meeting #67 in October of 2026, and is therefore an FYI document for the UTC.

Recommendations: The WG recommends to the UTC the following disposition ➡

No UTC action is required.

11) IRG N2946: IRG Meeting #67 Recommendations and Action Items

Comments: While this is mainly an FYI document for the UTC, because all of the necessary actions have been recommended under documents that are referenced later in this section of this document, it is important to point out the future IRG meeting schedule, the IRG Working Set 2024 review schedule, and other IRG-related activities, all of which impact UTC experts:

- Per **Recommendation IRG M67.01**, the next IRG meeting, **IRG Meeting #68 (2027-03-15 through 2027-03-19)** will be virtual (Webex) and hosted by Apple. The host for **IRG Meeting #69 (2027-10-11 through 2027-10-15)** is Fulbright University in Ho Chi Minh City, Vietnam. **IRG Meeting #70 (2028-03-13 through 2028-03-17)** will be virtual (Webex) and hosted by Apple.
- Per **Recommendation IRG M67.05**, the following is the review schedule for **IRG Working Set 2024 Version 6.0**:
 - **2026-11-27**: The IRG Chief Editor and ORT Manager fix all data; submitters that need to update representative glyphs provide updated fonts to the IRG Chief Editor and ORT Manager — 6 weeks
 - **2026-12-25**: The ORT Manager releases IRG Working Set 2024 Version 6.0 online via the ORT and as document IRG N2979 with an attached attributes file in Excel format — 4 weeks
 - **2027-02-05**: ORT Editors submit comments online via the ORT — 6 weeks
 - **2027-02-26**: The ORT Manager releases Consolidated Comments online and as document IRG N2980 — 3 weeks
 - **2027-03-12**: Submitters provide responses to comments online via the ORT — Friday before IRG Meeting #68
- Per **Recommendation IRG M67.06**, based on discussions during IRG Meeting #67, the IRG recommends that the seven IRG member bodies that indicated that they would submit ideographs for the next IRG working set — China (4000), TCA (2000), ROK (200), SAT (300), UK (1000), UTC (200), and Vietnam (2500) — begin preparing their submissions in anticipation of a call for submissions after IRG Meeting #68. The next IRG working set is expected to include approximately 10,000 ideographs.
- Per **Recommendation IRG M67.12**, Vietnam submitted a large (9,263-ideograph) horizontal extension as document [IRG N2970](#), which IRG experts will review between now and the next IRG meeting. The UTC should expect this horizontal extension to be recommended by the IRG during IRG Meeting #68 next March with Unicode Version 19.0 as the target.

Recommendations: The WG recommends to the UTC the following disposition ⇒

No UTC action is required.

12) IRG N2969R: China's UNC proposal on 1 character for Collected Works of Mao Zedong

Comments: Per **Recommendation M67.07** in document IRG N2946, the IRG recommended accepting the urgently-needed G-source ideograph in document IRG N2969R, with **U+2B81F** at the end of the CJK Unified Ideographs Extension D block as the recommended code point. Note that this addition will fill the block. The document includes as a PDF attachment a TrueType font that includes the representative glyph. The WG therefore recommends that the UTC accept this urgently-needed G-source ideograph with Unicode Version 19.0 as the target.

The WG noted that its traditional form, U+289E2 𪚥, lacks a *kIRG_GSource* property value, so China may consider horizontally extending it in the future. The WG also noted that the proposed

kMandarin property value for U+289E2 and U+2B81F, *bì*, will need to be vetted by the CLDR-TC as usual. The WG also noted that **GHS** is a new *kIRG_GSource* property source prefix whose Syntax and Description need to be reflected in UAX #38.

The following two lines of code are useful for implementing the extension to this block:

```
#define CJK_EXTD_FIRST (0x2B740)
#define CJK_EXTD_LAST (0x2B81F)
```

Recommendations: The WG recommends to the UTC the following disposition ➡

Consensus: Accept the urgently-needed G-source ideograph with code point U+2B81F at the end of the CJK Unified Ideographs Extension D block, along with its provided normative IRG source reference and informative properties, based on Recommendation M67.07 in document IRG N2946 (IRG), document IRG N2969R (China), and Section 12 of document L2/26-238, for Unicode Version 19.0.

Action Item for Ken Lunde, CJK: Update the UniHan database to add U+2B81F, along with its normative, informative, and provisional property data, based on Recommendation M67.07 in document IRG N2946, document IRG N2969R, and Section 12 of document L2/26-238, for Unicode Version 19.0.

Action Item for Ken Lunde, CJK: Update PRI #558 (aka Proposed Update UAX #38) to add the new GHS source prefix to the Syntax and Description of the *kIRG_GSource* property and to add U+2B81F to the first table in Section 4.4, based on Recommendation M67.07 in document IRG N2946, document IRG N2969R, and Section 12 of document L2/26-238, for Unicode Version 19.0.

Action Item for Sharon Chen, CJK: Ask the CLDR-TC to check the proposed *kMandarin* property value additions for U+289E2 and U+2B81F, then report back to the UTC. See Recommendation M67.07 in document IRG N2946, document IRG N2969R, and Section 12 of document L2/26-238.

Action Item for Ken Whistler, UTC: Update the pipeline to add U+2B81F, based on Recommendation M67.07 in document IRG N2946, document IRG N2969R, and Section 12 of document L2/26-238, for Unicode Version 19.0.

Action Item for Ken Whistler, RMG: Add mention of the range extension of the CJK Unified Ideographs Extension D block to the Alpha review notes for Unicode Version 19.0, based on Recommendation M67.07 in document IRG N2946, document IRG N2969R, and Section 12 of document L2/26-238.

Action Item for Ken Whistler, EDC: Update Table 4-8, Name Derivation Rule Prefix Strings, of the Core Specification to change 2B740..2B81E to 2B740..2B81F in the Range column, based on Recommendation M67.07 in document IRG N2946, document IRG N2969R, and Section 12 of document L2/26-238, for Unicode Version 19.0.

Action Item for Ken Whistler, EDC: Update Table 18-2, Small Extensions to CJK Blocks, of the Core Specification and its following paragraph to add U+2B81F, based on Recommendation M67.07 in document IRG N2946, document IRG N2969R, and Section 12 of document L2/26-238, for Unicode Version 19.0.

New:

U+9434	kSemanticVariant	U+289E2
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U+289E2	kSemanticVariant	U+9434
U+289E2	kSimplifiedVariant	U+2B81F
U+2B81F	kIRG_GSource	GHS-00001
U+2B81F	kRSUnicode	167'.7
U+2B81F	kSemanticVariant	U+2CB7D
U+2B81F	kTotalStrokes	12
U+2B81F	kTraditionalVariant	U+289E2
U+2CB7D	kSemanticVariant	U+2B81F

13) IRG N2929R2: G-Source horizontal extensions for 9178 characters

Comments: Per **Recommendation M67.08** in document IRG N2946, the IRG recommended that China's 9,178-ideograph horizontal extension, as proposed in document IRG N2929R2, be accepted. The document includes as a PDF attachment a TrueType font that provides the new G-source representative glyphs. The WG therefore recommends that the UTC accept this proposal with Unicode Version 19.0 as the target.

Recommendations: The WG recommends to the UTC the following disposition ⇒

Consensus: Accept China's 9,178-ideograph horizontal extension, based on Recommendation M67.08 in document IRG N2946 (IRG), document IRG N2929R2 (China), and Section 13 of document L2/26-238, for Unicode Version 19.0.

Action Item for Ken Lunde, CJK: Update the UniHan database to add 9,178 new kIRG_GSource property values, based on Recommendation M67.08 in document IRG N2946, document IRG N2929R2, and Section 13 of document L2/26-238, for Unicode Version 19.0.

14) IRG N2972R: T-Source horizontal extensions for 700 characters

Comments: Per **Recommendation M67.09** in document IRG N2946, the IRG recommended that TCA's 700-ideograph horizontal extension, as proposed in document IRG N2972R, be accepted. The document includes as a PDF attachment a TrueType font that provides the new T-source representative glyphs. The WG therefore recommends that the UTC accept this proposal with Unicode Version 19.0 as the target.

Recommendations: The WG recommends to the UTC the following disposition ⇒

Consensus: Accept TCA's 700-ideograph horizontal extension, based on Recommendation M67.09 in document IRG N2946 (IRG), document IRG N2972R (TCA), and Section 14 of document L2/26-238, for Unicode Version 19.0.

Action Item for Ken Lunde, CJK: Update the UniHan database to add 700 new kIRG_TSource property values, based on Recommendation M67.09 in document IRG N2946, document IRG N2972R, and Section 14 of document L2/26-238, for Unicode Version 19.0.

15) IRG N2960: UK Horizontal Extensions

Comments: Per **Recommendation M67.10** in document IRG N2946, the IRG recommended that the UK's two-ideograph horizontal extension, as proposed in document IRG N2960, be accepted. The document includes as a PDF attachment a TrueType font that provides the new UK-source representative glyphs. The WG therefore recommends that the UTC accept this proposal with Unicode Version 19.0 as the target.

Recommendations: The WG recommends to the UTC the following disposition ⇒

Consensus: Accept the UK's two-ideograph horizontal extension, based on Recommendation M67.10 in document IRG N2946 (IRG), document IRG N2960 (UK), and Section 15 of document L2/26-238, for Unicode Version 19.0.

Action Item for Ken Lunde, CJK: Update the Unihan database to add two new `kIRG_UKSource` property values, based on Recommendation M67.10 in document IRG N2946, document IRG N2960, and Section 15 of document L2/26-238, for Unicode Version 19.0.

16) IRG N2961R3: U-Source Horizontal Extension [L2/26-147R3]

Comments: Per **Recommendation M67.11** in document IRG N2946, the IRG recommended that this 74-ideograph horizontal extension, as proposed in document IRG N2961R3, be accepted. The WG therefore recommends that the UTC accept this proposal with Unicode Version 19.0 as the target.

This document is the third revision of a proposal from the UTC to the IRG for adding `kIRG_USource` property values and corresponding U-source representative glyphs to 74 ideographs in existing CJK Unified Ideographs blocks, which is referred to as a *horizontal extension*. The original proposal was to horizontally extend 40 ideographs. The first revision added five ideographs. The second revision added 29 ideographs. The third revision added supporting evidence for adding a new UCV (*Unifiable Component Variations*), based on feedback from IRG experts.

Recommendations: The WG recommends to the UTC the following disposition ⇒

Consensus: Accept the 74-ideograph horizontal extension, based on Recommendation M67.11 in document IRG N2946 (IRG), document IRG N2961R3 (Lunde; aka L2/26-147R3), and Section 16 of document L2/26-238, for Unicode Version 19.0.

Action Item for Ken Lunde, CJK: Update the Unihan database to add 74 new `kIRG_USource` property values, based on Recommendation M67.11 in document IRG N2946, document IRG N2961R3 (aka L2/26-147R3), and Section 16 of document L2/26-238, for Unicode Version 19.0.

Action Item for Ken Lunde, CJK: Update the UAX #45 data file to reflect the changes to 74 records, based on Recommendation M67.11 in document IRG N2946, document IRG N2961R3 (aka L2/26-147R3), and Section 16 of document L2/26-238, for Unicode Version 19.0.

Action Item for Ken Lunde, CJK: Update the UAX #45 TrueType font to add 74 new mappings, then provide the updated UAX #45 TrueType font to Michel Suignard and the Charts Working

Group, based on Recommendation M67.11 in document IRG N2946, document IRG N2961R3 (aka L2/26-147R3), and Section 16 of document L2/26-238, for Unicode Version 19.0.

17) IRG N2986: Feedback to IRG N2956

Comments: Per **Recommendation M67.13** in document IRG N2946, the IRG recommended that the normative *kIRG_GSource* property value changes for U+2B0AF 𪛶, U+2B26F 𪛶, and U+2B720 𪛶, as proposed in document IRG N2986, along with the informative *kRSUnicode* and *kTotalStrokes* property value changes for U+2AE99 𪛶, as proposed in the same document, be accepted. The WG therefore recommends that the UTC accept these changes with Unicode Version 19.0 as the target.

Recommendations: The WG recommends to the UTC the following disposition ➡

Consensus: Accept the proposal to change the normative *kIRG_GSource* property values of U+2B0AF, U+2B26F, and U+2B720 and to change the informative *kRSUnicode* and *kTotalStrokes* property values of U+2AE99 to 87.11 and 15, respectively, based on Recommendation M67.13 in document IRG N2946 (IRG), document IRG N2986 (China), and Section 17 of document L2/26-238, for Unicode Version 19.0.

Action Item for Ken Lunde, CJK: Update the UniHan database to change the *kIRG_GSource* property values of U+2B0AF, U+2B26F, and U+2B720 and to change the *kRSUnicode* and *kTotalStrokes* property values of U+2AE99 to 87.11 and 15, respectively, based on Recommendation M67.13 in document IRG N2946, document IRG N2986, and Section 17 of document L2/26-238, for Unicode Version 19.0.

Current:

U+2AE99	<i>kRSUnicode</i>	87.13
U+2AE99	<i>kTotalStrokes</i>	17
U+2B0AF	<i>kIRG_GSource</i>	GBK-5302460
U+2B26F	<i>kIRG_GSource</i>	GBK-4205490
U+2B720	<i>kIRG_GSource</i>	GBK-2104800

Adjusted:

U+2AE99	<i>kRSUnicode</i>	87.11
U+2AE99	<i>kTotalStrokes</i>	15
U+2B0AF	<i>kIRG_GSource</i>	GBK-5301480
U+2B26F	<i>kIRG_GSource</i>	GCEI-00562
U+2B720	<i>kIRG_GSource</i>	GU-2B720

18) IRG N2985: Feedback to IRG N2954 and IRG N2955 IRG N2986: Feedback to IRG N2956

Comments: Per **Recommendation M67.14** in document IRG N2946, the IRG recommended that the G-source representative glyph changes for U+2AE99 𪛶, U+2B622 𪛶, and U+2CCA3 𪛶, as proposed in documents IRG N2985 (1) and IRG N2986 (2), along with changing the informative *kRSUnicode* and *kTotalStrokes* property values of U+2CCA3 to 167.18 and 23, respectively, as proposed in document IRG N2985, be accepted. The TrueType font that is a PDF attachment of both documents is identical, and provides the three updated G-source representative glyphs.

The WG also recommends that *kSimplifiedVariant* and *kTraditionalVariant* property values be applied to U+28C09 and U+2CCA3, respectively. The WG therefore recommends that the UTC accept this proposal with Unicode Version 19.0 as the target. The WG further recommends that blue highlighting be applied to all three G-source representative glyphs in the code charts, and that glyph errata be posted for the G-source representative glyphs of U+2B622 and U+2CCA3.

Recommendations: The WG recommends to the UTC the following disposition ➡

Consensus: Accept the proposal to change the informative *kRSUnicode* and *kTotalStrokes* property values of U+2CCA3 to 167'.18 and 23, respectively, based on Recommendation M67.14 in document IRG N2946 (IRG), document IRG N2985 (China), and Section 18 of document L2/26-238, for Unicode Version 19.0.

Consensus: Accept the proposal to change the G-source representative glyphs of U+2AE99, U+2B622 and U+2CCA3, based on Recommendation M67.14 in document IRG N2946 (IRG), document IRG N2985 (China), document IRG N2986 (China), and Section 18 of document L2/26-238, for Unicode Version 19.0.

Action Item for Ken Lunde, CJK: Update the Unihan database to change the *kRSUnicode* and *kTotalStrokes* property values of U+2CCA3 to 167'.18 and 23, respectively, based on Recommendation M67.14 in document IRG N2946, document IRG N2985, and Section 18 of document L2/26-238, for Unicode Version 19.0.

Action Item for Ken Lunde, CJK: Update the Unihan database to add *kSimplifiedVariant* and *kTraditionalVariant* property values to U+28C09 and U+2CCA3, respectively, based on Section 18 of document L2/26-238, for Unicode Version 19.0.

Action Item for Ken Lunde, Michelle Perham, CHARTS: Draft and post errata notices to the “Updates and Errata” page about the correction of the G-source representative glyphs for U+2B622 and U+2CCA3, based on Section 18 of document L2/26-238, for Unicode Version 19.0.

Action Item for Michel Suignard, CHARTS: Apply the representative glyph changes to three G-source ideographs and apply blue highlighting to all of them, based on Recommendation M67.14 in document IRG N2946, document IRG N2985, document IRG N2986, and Section 18 of document L2/26-238, for Unicode Version 19.0.

Current:

U+2CCA3	<i>kRSUnicode</i>	184.18
U+2CCA3	<i>kTotalStrokes</i>	26

Adjusted:

U+2CCA3	<i>kRSUnicode</i>	167' .18
U+2CCA3	<i>kTotalStrokes</i>	23

New:

U+28C09	<i>kSimplifiedVariant</i>	U+2CCA3
U+2CCA3	<i>kTraditionalVariant</i>	U+28C09

19) IRG N2975: Feedback to IRG N2974

Comments: Per **Recommendation M67.16** in document IRG N2946, the IRG recommended that the T-source representative glyph change for U+3097C 𠄎, as proposed in document IRG

N2975, be accepted. The TrueType font that is a PDF attachment of the document provides the updated T-source representative glyph. The WG therefore recommends that the UTC accept this proposal with Unicode Version 19.0 as the target.

Recommendations: The WG recommends to the UTC the following disposition ➡

Consensus: Accept the proposal to change the T-source representative glyph of U+3097C, based on Recommendation M67.16 in document IRG N2946 (IRG), document IRG N2975 (TCA), and Section 19 of document L2/26-238, for Unicode Version 19.0.

Action Item for Michel Suignard, CHARTS: Apply the T-source representative glyph change to U+3097C, based on Recommendation M67.16 in document IRG N2946, document IRG N2975, and Section 19 of document L2/26-238, for Unicode Version 19.0.

Other Topics

20) Updated Provisional Unihan Database Properties

Comments: The purpose of this section is to provide a synopsis of adjustments that were made to provisional Unihan database properties by the Chair of the WG since UTC Meeting #188 took place, which are shown in the table below (the figures in **green** represent adjustments that are reflected in Unicode Version 18.0):

Property	Additions	Removals	Changes	Notes
kDefinition			1	
kGB5	2			
kMojijoho			5	
kMorohashi	124	45	94 + 1	
kPhonetic	448 + 1663		9 + 61	Fine-tuning of property values with stakeholder via pull requests in the open source Unihan Database repository
kSemanticVariant	5		2	
kSimplifiedVariant		2	4	
kSpoofingVariant			4	
kStrange	21		4	
kTraditionalVariant	4	2	4	

The WG noted that the four *kSpoofingVariant* changes are already represented in the UTS #39 *confusables.txt* data file, so no action is necessary.

Recommendations: The WG recommends to the UTC the following disposition ➡

No UTC action is required.

That is all.