

Title: CJK & Unihan Group Recommendations for UTC #173 Meeting

Author: Ken Lunde

Date: 2022-11-01

This document provides the CJK & Unihan Group recommendations for UTC #173 based on a meeting that took place from 6 to 10PM PDT on 2022-10-21, which was attended by Yi Bai, Eiso Chan, Henry Chan, Lee Collins, Peter Constable, John Jenkins, Kushim Jiang, Kyongsok Kim, Ken Lunde, William Nelson, CheonHyeong Sim, Stephan Hyeonjun Stiller, Xieyang Wang, and Yifán Wáng via [Zoom](#). The Chair of the [CJK & Unihan Group](#), Ken Lunde, chaired the meeting with John Jenkins as Vice-Chair.

The CJK & Unihan Group reviewed public feedback and documents that were received since UTC #172. Comments are marked in **green**, and Copy&Paste-ready Recommendations to the UTC are marked in **red**.

Public Feedback

The six items of public feedback from [L2/22-243](#) that are in this section were discussed by the group, and for convenience, the following data files, which are PDF attachments, include the recommended additions, changes, and removals based on them:

- *Unihan-additions-20221021.txt*
- *Unihan-changes-20221021.txt*
- *Unihan-removals-20221021.txt*
- *USource-changes-20221021.txt*
- *kMandarin-changes-20221021.txt*

With the exception of *kMandarin* property value changes, the recommended Unihan database additions, changes, and removals and U-Source changes are also shown inline, following the **Recommendations**.

01) 2022-07-19 20:50:44 CDT

Date/Time: Tue Jul 19 20:50:44 CDT 2022

Name: Eiso Chan

Report Type: Error Report

Opt Subject: **New entry for UTN #43**

U+20B9A ☐ should be tagged as B for BOPOMOF0 LETTER R U+3116 ☐. U+20B9A ☐ is not a common character for the modern CJKV people.

Comments: The group discussed this feedback, and noted that the proposed *kStrange* addition is already included among those proposed in [L2/22-190](#) that is covered in Section 16 of this document, and therefore no action is required.

Recommendations: The group recommends to the UTC the following disposition ⇨

No UTC action is required.

02) 2022-07-31 20:08:08 CDT

Date/Time: Sun Jul 31 20:08:08 CDT 2022

Name: Eiso Chan

Report Type: Error Report

Opt Subject: **kMandarin value for U+3D65**

The current kMandarin value for U+3D65 濫 is bì. Kangxi Dictionary shows 覓畢切, and the pronunciation is same as 密, and it is the variant of U+3D35 濫. Hanyu Dazidian shows the similar information. Hanyu Dazidian also shows the Putonghua reading for 濫 is mì, which is the same in Unihan Database. One of my friend uses 濫 in her name, and she told me the reading for 濫 is mì in her name to follow Kangxi Dictionary.

It is better to update the kMandarin value for U+3D65 濫 to mì.

Comments: The group discussed this feedback, which includes a single *kMandarin* property value change that was deemed appropriate, and which will need to be checked by the CLDR-TC prior to updating the Unihan database.

Recommendations: The group recommends to the UTC the following disposition ⇨

Action Item for Peter Edberg, CJK: Ask the CLDR-TC to check the proposed kMandarin property value change, then report back to the UTC. See feedback [Sun Jul 31 20:08:08 CDT 2022] in document L2/22-243 and Section 02 of document L2/22-247.

03) 2022-08-08 07:25:17 CDT

Date/Time: Mon Aug 8 07:25:17 CDT 2022

Name: Andrew West

Report Type: Error Report

Opt Subject: **CJK Unified Ideographs code chart**

In the Unicode 15.0 beta code charts, UTC-00355 (𠄎𠄎𠄎) is mapped to U+9855 𠄎 (𠄎𠄎𠄎).

It should be mapped to U+29530 𠄎 (𠄎𠄎𠄎).

Comments: The group discussed this feedback, and after checking the source of UTC-00355, *Student's Cantonese-English Dictionary* by Bernard F. Meyer and Theodore F. Wempe, agreed that moving the *kIRG_USource* property value of U+9855 𠄎 to U+29530 𠄎 is appropriate. This also affects the record for UTC-00355 in UAX #45, specifically the values for Fields 1 (*Text indicating the ideograph's status*), 2 (*A Unicode code point*), 8 (*Total strokes*) and 9 (*First residual stroke*) that should be changed to **ExtB, U+29530, 19, and 2**, respectively.

Recommendations: The group recommends to the UTC the following disposition ⇨

Consensus: Accept the proposal to move the `kIRG_USource` property value of U+9855, UTC-00355, to U+29530, based on feedback [Mon Aug 8 07:25:17 CDT 2022] in document L2/22-243 and Section 03 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for Michel Suignard, CJK: Move the `kIRG_USource` property value of U+9855, UTC-00355, to U+29530, based on feedback [Mon Aug 8 07:25:17 CDT 2022] in document L2/22-243 and Section 03 of document L2/22-247, and provide to John Jenkins an updated Unihan data file, for the next version of the Unicode Standard.

Action Item for John Jenkins, CJK: Update the Unihan database to move the `kIRG_USource` property value of U+9855, UTC-00355, to U+29530, based on feedback [Mon Aug 8 07:25:17 CDT 2022] in document L2/22-243 and Section 03 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, CJK: Update the record for UTC-00355 in UAX #45 to reflect ExtB as Field 1, U+29530 as Field 2, 19 as Field 8, and 2 as Field 9, based on feedback [Mon Aug 8 07:25:17 CDT 2022] in document L2/22-243 and Section 03 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for Ken Lunde, CJK: Convey to the feedback submitter the CJK & Unihan Group comments in Section 03 of document L2/22-247. See feedback [Mon Aug 8 07:25:17 CDT 2022] in document L2/22-243.

Removed—Unihan database:

U+9855 `kIRG_USource` UTC-00355

New—Unihan database:

U+29530 `kIRG_USource` UTC-00355

Current—*USourceData.txt*:

UTC-00355;UR0;U+9855;181.10;;𠩺日亞頁;kMeyerWempe 718;;18;

Adjusted—*USourceData.txt*:

UTC-00355;**ExtB;U+29530**;181.10;;𠩺日亞頁;kMeyerWempe 718;;**19;2**

04) 2022-08-09 05:28:31 CDT

Date/Time: Tue Aug 9 05:28:31 CDT 2022

Name: Andrew West

Report Type: Error Report

Opt Subject: **Unihan_IRGSources.txt (15.0)**

The `kRSUnicode` value for U+31D40 (𠩺牛磨) is 112.15 (i.e. 石 radical), but this is unintuitive, and makes the character hard to find. Please add an additional `kRSUnicode` value of 93.16 (i.e. 牛 radical).

Comments: The group discussed this feedback, and agreed that 93.16 is a more intuitive `kRSUnicode` property value for U+31D40 that will aid in discoverability, and should therefore be added as a second property value.

Recommendations: The group recommends to the UTC the following disposition ⇨

Consensus: Accept the proposal to change the *kRSUnicode* property value of U+31D40, based on feedback [Tue Aug 9 05:28:31 CDT 2022] in document L2/22-243 and Section 04 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for Michel Suignard, CJK: Change the *kRSUnicode* property value of U+31D40 to add 93.16 as a second property value, based on feedback [Tue Aug 9 05:28:31 CDT 2022] in document L2/22-243 and Section 04 of document L2/22-247, and provide to John Jenkins an updated Unihan data file, for the next version of the Unicode Standard.

Action Item for John Jenkins, CJK: Update the Unihan database to add 93.16 as a second *kRSUnicode* property value for U+31D40, based on feedback [Tue Aug 9 05:28:31 CDT 2022] in document L2/22-243 and Section 04 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for Ken Lunde, CJK: Convey to the feedback submitter the CJK & Unihan Group comments in Section 04 of document L2/22-247. See feedback [Tue Aug 9 05:28:31 CDT 2022] in document L2/22-243.

Current:

U+31D40	<i>kRSUnicode</i>	112.15
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Adjusted:

U+31D40	<i>kRSUnicode</i>	112.15 93.16
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05) 2022-08-09 06:18:28 CDT

Date/Time: Tue Aug 9 06:18:28 CDT 2022

Name: Andrew West

Report Type: Error Report

Opt Subject: **Unihan_IRGSources.txt (15.0)**

U+31DBF (𠂇𠂇穿) has a *kRSUnicode* value of 116.7 (i.e. 穴 radical). This is unintuitive, and makes the character hard to find. Please add an additional *kRSUnicode* value of 85.9 (i.e. 水 radical).

Comments: The group discussed this feedback, and agreed that 85.9 is a more intuitive *kRSUnicode* property value for U+31DBF that will aid in discoverability, and should therefore be added as a second property value.

Recommendations: The group recommends to the UTC the following disposition ⇨

Consensus: Accept the proposal to change the *kRSUnicode* property value of U+31DBF, based on feedback [Tue Aug 9 06:18:28 CDT 2022] in document L2/22-243 and Section 05 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for Michel Suignard, CJK: Change the *kRSUnicode* property value of U+31DBF to add 85.9 as a second property value, based on feedback [Tue Aug 9 06:18:28 CDT 2022] in document L2/22-243 and Section 05 of document L2/22-247, and provide to John Jenkins an updated Unihan data file, for the next version of the Unicode Standard.

Action Item for John Jenkins, CJK: Update the Unihan database to add 85.9 as a second kRSUnicode property value for U+31DBF, based on feedback [Tue Aug 9 06:18:28 CDT 2022] in document L2/22-243 and Section 05 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for Ken Lunde, CJK: Convey to the feedback submitter the CJK & Unihan Group comments in Section 05 of document L2/22-247. See feedback [Tue Aug 9 06:18:28 CDT 2022] in document L2/22-243.

Current:

U+31DBF	kRSUnicode	116.7
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Adjusted:

U+31DBF	kRSUnicode	116.7 85.9
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06) 2022-09-05 08:44:48 CDT

Date/Time: Mon Sep 5 08:44:48 CDT 2022

Name: Huáng Jùnliàng

Report Type: Error Report

Opt Subject: **UniHan.zip/Unihan_Readings.txt**

Currently, the kMandarin of U+2277B 懼 is hōng. However, according to GHZ pp. 2495 (https://homeinmists.ilotus.org/hd/hydzd3.php?st=page_no&kw=2495), 懼 is a variant of 惚, so the kMandarin should be hū. The reading hū is also supported by CNS11643: <https://www.cns11643.gov.tw/wordView.jsp?ID=672838>

Comments: The group discussed this feedback, which includes a single *kMandarin* property value change that was deemed appropriate, and which will need to be checked by the CLDR-TC prior to updating the Unihan database.

Recommendations: The group recommends to the UTC the following disposition ⇨

Action Item for Peter Edberg, CJK: Ask the CLDR-TC to check the proposed kMandarin property value change, then report back to the UTC. See feedback [Mon Sep 5 08:44:48 CDT 2022] in document L2/22-243 and Section 06 of document L2/22-247.

UAX #38 / Unihan Database Documents

The documents in this section were discussed by the group, and for convenience, the following data files, all of which are PDF attachments, include all of the recommended Unihan database additions, changes, and removals based on them:

- *Unihan-additions-20221021.txt*
- *Unihan-changes-20221021.txt*
- *Unihan-removals-20221021.txt*
- *kJapanese-20221021.txt*
- *kMandarin-changes-20221021.txt*
- *kMojijoho-20221021.txt*

- *kMorohashi-20221021.txt*
- *kSMSZD2003Cantonese-20221021.txt*
- *kSMSZD2003Index-20221021.txt*
- *kVietnameseNumeric-20221021.txt*
- *kZhuangNumeric-20221021.txt*

With the exception of new and significantly updated properties (*kJapanese*, *kMojiJoho*, *kMorohashi*, *kSMSZD2003Cantonese*, *kSMSZD2003Index*, *kVietnameseNumeric*, and *kZhuangNumeric*), *kMandarin* property value changes, *kFourCornerCode* property value additions, and *kXHC1983* property value removals, additions, and changes, the recommended Unihan database additions, changes, and removals are also shown inline, following the **Recommendations**.

07) L2/22-181: Proposal for new provisional Unihan database property: *kJapanese*

Comments: The group discussed this proposal, which is for a new provisional Unihan database property, *kJapanese*, that provides Japanese readings expressed in hiragana and katakana, and covers more than 51,000 CJK Unified Ideographs. The source of the data is the Moji Jōhō Kiban (文字情報基盤) database, which the Unicode Consortium licensed from CITPC (文字情報技術促進協議会 *Character Information Technology Promotion Council*). The group noted that the Unihan database is historically biased toward Chinese metadata, so this new property is a welcome addition, because it significantly increases the Japanese coverage. This new property will need to be documented in UAX #38, and a new PRI will need to be issued.

The group agreed with the proposal author's recommendation that the *kJapanese* property values that are added to the next version of the Unicode Standard match what is in the Moji Jōhō Kiban database in order to establish a baseline. When dealing with such a large number of property values, the baseline will be useful for tracing the history of changes going forward. Of course, changes and additions to this property can be entertained in subsequent versions of the Unicode Standard.

At some point in the future, the provisional *kJapaneseKun* and *kJapaneseOn* properties can be removed.

Recommendations: The group recommends to the UTC the following disposition ⇨

Consensus: Accept the new provisional Unihan database property, *kJapanese*, based on document L2/22-181 and Section 07 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, EDC: Document the provisional *kJapanese* property in UAX #38, based on document L2/22-181 and Section 07 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, CJK: Populate the *kJapanese* property in the Unihan database with the property values as provided in L2/22-181, based on Section 07 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for Rick McGowan, UTC: Post the PRI for the proposed update of UAX #38, to close 2023-01-03.

08) L2/22-187: Proposal for new provisional Unihan database property: *kMojiJoho*

Comments: The group discussed this proposal, which is for a new provisional Unihan database property, *kMojiJoho*, that provides mappings to the Moji Jōhō Kiban database, and covers more than 52,000 CJK Unified Ideographs. This is a revision of the original proposal, L2/20-146, which was not accepted due to licensing concerns surrounding the Moji Jōhō Kiban database, which were resolved by the Unicode Consortium acquiring a special license from CITPC. Like the provisional *kJapanese* property, the group noted that this new property is also a welcome addition to the Unihan database, because it significantly increases the Japanese coverage. This new property will need to be documented in UAX #38, and included in a PRI.

The [Unihan Database Lookup](#) tool should also be updated to link Moji Jōhō Kiban database serial numbers to the online version of the [Moji Jōhō Kiban database](#) as described on page 3 of L2/22-187.

Lastly, Henry Chan noted the following four questionable mappings and their proposed corrections, which Ken Lunde will convey to CITPC as the Unicode Consortium’s liaison contact:

MJ046645: U+26D1F → U+26C5D
MJ047165: U+27051 → U+27009
MJ051290: U+286FB → U+286F2
MJ054422: U+2995C → U+29946

Any adjustments to these four mappings in the *kMojiJoho* property will be applied after they have been corrected in the Moji Jōhō Kiban database.

Recommendations: The group recommends to the UTC the following disposition ⇨

Consensus: Accept the new provisional Unihan database property, *kMojiJoho*, based on document L2/22-187 and Section 08 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, EDC: Document the provisional *kMojiJoho* property in UAX #38, based on document L2/22-187 and Section 08 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, EDC: Update the Unihan Database Lookup tool to link Moji Jōhō Kiban database serial numbers to the online version of the Moji Jōhō Kiban database, based on document L2/22-187 and Section 08 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, CJK: Populate the *kMojiJoho* property in the Unihan database with the property values as provided in L2/22-187, for the next version of the Unicode Standard.

Action Item for Ken Lunde, CJK: As the Unicode Consortium’s liaison contact for CITPC, convey to CITPC the Moji Jōhō Kiban database mapping issues that were identified by Henry Chan, based on Section 08 of document L2/22-247.

09) L2/22-188: Proposal to remove/improve provisional Unihan database properties

Comments: The group discussed this proposal, which is to remove the provisional *kIRGDaiKanwaZiten* property, and to significantly expand the provisional Unihan database property, *kMorohashi*, that provides mappings to *Dai Kanwa Jiten* (大漢和辞典) index numbers, and covers nearly 50,000 CJK Unified Ideographs. This is a revision of the original proposal, L2/21-032, which was marked as a draft due to known licensing concerns surrounding the Moji Jōhō Kiban database, which were resolved by the Unicode Consortium acquiring a special license from CITPC. Like the provisional *kJapanese* and *kMojiJoho* properties, the group noted that this new property is also a welcome addition to the Unihan database, because it significantly increases the Japanese coverage. The Syntax and Description of the *kMorohashi* property will need to be updated in UAX #38 per this proposal, and included in a PRI.

In terms of the actual property data, Ryusei Yamaguchi pointed out in the *#unihan* channel on Slack that U+0022 " QUOTATION MARK cannot be used in Unihan database property data, which affects the following three proposed property values:

U+34ED	kMorohashi	02076"
U+4AA3	kMorohashi	43256"
U+862D	kMorohashi	32477" 32477":E0102 32519:E0103

The group agreed that a sequence of two U+0027 ' APOSTROPHE characters should be used instead (changes in **red**):

U+34ED	kMorohashi	02076''
U+4AA3	kMorohashi	43256''
U+862D	kMorohashi	32477'' 32477'':E0102 32519:E0103

The proposed Syntax change should therefore be adjusted to become the following (changes in **red**):

```
\d{5}\{'{0,2}\}H\d{3}(:|(FE0[01]|E010[0-9A-F]))?
```

The first sentence of the second paragraph of the proposed Description change on page 3 of the proposal should be adjusted to become the following (changes in **red**):

*Index numbers are five zero-padded integer values with an optional **single apostrophe** (') or **double apostrophe** (") suffix that corresponds to the appearance of a prime or double prime.*

One of the group members expressed concern with the proposed *kMorohashi* property values for U+7DFB 緻 (H484) and U+77C9 贖 (23777), citing that their current property values, 27700 and 23778, respectively, appear to be correct. The proposal author confirmed that the proposed property values are correct by checking the latest edition of the dictionary, which is the Revised Second Edition (修訂第二版). The corrections that are included in the table that spans pp 3 through 5 of the proposal therefore also reflect changes between editions of this

dictionary. This then suggests changing the first paragraph of the proposed Description change on page 3 of the proposal to become the following (changes in **red**):

*The index of the ideograph in the Dai Kanwa Jiten (大漢和辞典) Japanese kanji dictionary, **Revised Second Edition** (1989–1990, 大修館書店)—often referred to as Morohashi (諸橋), the family name of its chief editor—or in the Dai Kanwa Jiten Hokan (大漢和辞典補卷) supplemental volume (2000, 大修館書店).*

Like with the *kJapanese* property, the group agreed with the proposal author’s recommendation that the updated *kMorohashi* property values in the next version of the Unicode Standard match what is in the Moji Jōhō Kiban database in order to establish a baseline. And like with the *kJapanese* property, when dealing with such a large number of property values, the baseline will be useful for tracing the history of changes going forward. Any additions to this property, which would entail filling in as many of the 1,800 or so missing dictionary indices, can be entertained in subsequent versions of the Unicode Standard.

Recommendations: The group recommends to the UTC the following disposition ⇨

Consensus: Remove the provisional Unihan database property, *kIRGDaiKanwaZiten*, based on document L2/22-188 and Section 09 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, EDC: Revise the Syntax and Description of the provisional *kMorohashi* property in UAX #38, based on document L2/22-188 and as amended in Section 09 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, CJK: Remove the provisional Unihan database property, *kIRGDaiKanwaZiten*, and replace the existing *kMorohashi* property values in the Unihan database with the property values as provided in L2/22-188 and as amended in Section 09 of document L2/22-247, for the next version of the Unicode Standard.

10) L2/22-204R: Proposal to Add Two New Fields to the Unihan Database

Comments: The group discussed the original version of this proposal, which was for two new provisional Unihan database properties, *kSoengmou2003Index* and *kSoengmou2003Readings*. The first property provides mappings to the dictionary entitled *Soengmou San Zidin* (商務新字典 *New Commercial Press Character Dictionary*), and the second property provides the Pinyin and Cantonese readings that are expressed in this dictionary. The group concluded that these properties are appropriate additions to the Unihan database given the popularity of this particular dictionary, though they agreed that the Pinyin readings should be removed, and that *kSMSZD2003Index* and *kSMSZD2003Cantonese* are better property names that follow existing property names that use abbreviated forms of the full dictionary name. These changes are reflected in L2/22-204R, which was submitted after the group’s meeting. Also, and although not explicitly stated in the original nor revised proposals, the *sSoengmou2003* source that is documented in Section 4.5 of UAX #38 should be removed from the table, and property values that reference it should be changed to *kSMSZD2003Index*. These new properties will need to be documented in UAX #38, and included in a PRI.

Recommendations: The group recommends to the UTC the following disposition ⇨

Consensus: Accept the two new provisional Unihan database properties, kSMSZD2003Index and kSMSZD2003Cantonese, based on document L2/22-204R and Section 10 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, EDC: Document the provisional kSMSZD2003Index and kSMSZD2003Cantonese properties in UAX #38 and remove the sSoengmou2003 source from the table in Section 4.5, based on document L2/22-204R and as amended in Section 10 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, CJK: Populate the kSMSZD2003Index and kSMSZD2003Cantonese properties in the Unihan database with the property values as provided in L2/22-204R, and change sSoengmou2003 to kSMSZD2003Index in property values that reference the former as amended in Section 10 of document L2/22-247, for the next version of the Unicode Standard.

11) L2/22-223: Proposed Updates and Expansions of Unihan Numeric Fields

Comments: The group discussed this proposal, which is a revision of L2/22-111 that was discussed during the UTC #172 meeting in July. The first part of the proposal specifies additional changes to the Descriptions of the provisional *kAccountingNumeric*, *kOtherNumeric*, and *kPrimaryNumeric* properties, which were tweaked by the group as follows:

kAccountingNumeric: *The value of the character when used as an accounting numeral to prevent fraud in Chinese and derivative numeric systems.* A numeral such as 十 (ten) is easily transformed into 千 (thousand) by adding a single stroke, so monetary documents often use an accounting form of the numeral, such as 拾 (ten), instead of the more common—and simpler—form. Characters with this property will have a single, well-defined value, which a native reader can reasonably be expected to understand.

The three **Chinese** numeric-value fields should have no overlap; that is, characters with a *kAccountingNumeric* value should not have a *kOtherNumeric* or *kPrimaryNumeric* value as well.

kOtherNumeric: *One or more values of the character when used as a numeral in Chinese and derivative numeric systems.* Characters with this property are rarely used, **obsolete, domain-specific, non-standard, or non-compositional as a numeral.** For example, 么 “tiny,” normally not a numeral, can be used as the phonetic code for “one” in some regions. An English-language equivalent is “score,” whose numeric value, “twenty,” is not recognized by many native readers.

The three **Chinese** numeric-value fields should have no overlap; that is, characters with a *kOtherNumeric* value should not have a *kAccountingNumeric* or *kPrimaryNumeric* value as well.

kPrimaryNumeric: *One or more values of the character when used as a numeral in Chinese and derivative numeric systems.* Characters which have this property have numeric values that are common, **or are standardized to** convey a **fixed** numeric value. For example, 千 always means “thousand.” A native reader is expected to understand the numeric value for these characters.

The three **Chinese** numeric-value fields should have no overlap; that is, characters with a *kPrimaryNumeric* value should not have a *kAccountingNumeric* or *kOtherNumeric* value as well.

The second part of the proposal includes one (1) *kAccountingNumeric* property value deletion, eight (8) *kOtherNumeric* additions, 11 *kPrimaryNumeric* additions, and one (1) *kPrimaryNumeric* change. The group noted that the single *kPrimaryNumeric* change should have specified 1000000 (one-million), not 100000 (one-hundred thousand), as the additional property value for U+5146 兆.

The third part of the proposal is for two new provisional Unihan database properties, *kVietnameseNumeric* and *kZhuangNumeric*, that specify values for additional numeric systems. The group agreed that these properties are worthwhile additions to the Unihan database, though the record for U+21DA8 𠩺 should be removed from the proposed property data, and the nine records shown after this paragraph should be added. These new properties will need to be documented in UAX #38, and included in a PRI.

New—*kVietnameseNumeric*:

U+6797	<i>kVietnameseNumeric</i>	100
U+20929	<i>kVietnameseNumeric</i>	7
U+28DC8	<i>kVietnameseNumeric</i>	10000
U+2B52C	<i>kVietnameseNumeric</i>	10000
U+2C0F4	<i>kVietnameseNumeric</i>	100
U+2CB99	<i>kVietnameseNumeric</i>	10000
U+30FD8	<i>kVietnameseNumeric</i>	10000
U+31FA3	<i>kVietnameseNumeric</i>	10000
U+32226	<i>kVietnameseNumeric</i>	10000

Recommendations: The group recommends to the UTC the following disposition ⇨

Consensus: Accept the two new provisional Unihan database properties, *kVietnameseNumeric* and *kZhuangNumeric*, based on document L2/22-223 and as amended in Section 11 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, EDC: Adjust the Descriptions of the *kAccountingNumeric*, *kOtherNumeric*, and *kPrimaryNumeric* properties in UAX #38, based on document L2/22-223 and as amended in Section 11 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, CJK: Apply the adjustments to the *kAccountingNumeric*, *kOtherNumeric*, and *kPrimaryNumeric* properties, based on document L2/22-223 and as amended in Section 11 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, EDC: Document the provisional *kVietnameseNumeric* and *kZhuangNumeric* properties in UAX #38, based on document L2/22-223 and Section 11 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, CJK: Populate the *kVietnameseNumeric* and *kZhuangNumeric* properties in the Unihan database with the property values as provided in L2/22-223 and as amended in L2/22-247, for the next version of the Unicode Standard.

Removed:

U+842C	<i>kAccountingNumeric</i>	10000
--------	---------------------------	-------

New:

U+4E24	<i>kOtherNumeric</i>	2
U+4EAC	<i>kPrimaryNumeric</i>	100000000000000000

U+4FE9	kOtherNumeric	2
U+5006	kOtherNumeric	2
U+5793	kPrimaryNumeric	1000000000000000000000
U+62D0	kOtherNumeric	7
U+6C9F	kPrimaryNumeric	10000000000000000000000000000000
U+6D1E	kOtherNumeric	0
U+6DA7	kPrimaryNumeric	10000000000000000000000000000000
U+6E9D	kPrimaryNumeric	10000000000000000000000000000000
U+6F97	kPrimaryNumeric	10000000000000000000000000000000
U+7695	kOtherNumeric	200
U+79ED	kPrimaryNumeric	10000000000000000000000000 1000000000000 1000000000
U+7A63	kPrimaryNumeric	10000000000000000000000000000000
U+7A70	kPrimaryNumeric	10000000000000000000000000000000
U+842C	kPrimaryNumeric	10000
U+920E	kOtherNumeric	9
U+94A9	kOtherNumeric	9
U+25771	kPrimaryNumeric	10000000000000000000000000
Current:		
U+5146	kPrimaryNumeric	10000000000000
Adjusted:		
U+5146	kPrimaryNumeric	10000000000000 1000000

12) L2/22-195: Proposal to remove the kRSKangXi property from the Unihan database

Comments: The group discussed this proposal, which is to remove the provisional *kRSKangXi* property. The group agreed that the 123 proposed *kRSUnicode* property value changes preserve any useful remnants of this provisional property, which is incomplete and riddled with errors. The group noted that the following three ideographs will now have three *kRSUnicode* property values, which is okay in order to preserve particular *kRSKangXi* property values, though having more than two *kRSUnicode* property values is generally not encouraged:

U+52D7	kRSUnicode	72.7 73.7 19.9
U+7740	kRSUnicode	109.7 123.5 109.6
U+221A1	kRSUnicode	5.13 39.11 51.11

The group further noted that proposed *kRSUnicode* property value change for U+8531 藪藪, 140.11 140.11, should instead be 140.11 140.**10**.

Recommendations: The group recommends to the UTC the following disposition ⇨

Consensus: Remove the provisional Unihan database property, kRSKangXi, and accept 123 kRSUnicode property changes, based on document L2/22-195 and as amended in Section 12 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, EDC: Remove the provisional Unihan database property, kRSKangXi, from UAX #38, based on L2/22-195 and Section 12 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, CJK: Remove the provisional Unihan database property, kRSKangXi, from the Unihan database, based on L2/22-195 and Section 12 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for Michel Suignard, CJK: Change the 123 kRSUnicode property values, based on L2/22-195 and as amended in Section 12 of document L2/22-247, and provide to John Jenkins an updated Unihan data file, for the next version of the Unicode Standard.

Action Item for John Jenkins, CJK: Update the Unihan database to reflect the 123 kRSUnicode property value changes, based on L2/22-195 and as amended in Section 12 of document L2/22-247, for the next version of the Unicode Standard.

Current:

U+4E60	kRSUnicode	5.2
U+4E78	kRSUnicode	5.7
U+4E90	kRSUnicode	1.2
U+4EB2	kRSUnicode	8.7
U+4F64	kRSUnicode	9.4
U+503B	kRSUnicode	9.8
U+50F7	kRSUnicode	9.12
U+51E6	kRSUnicode	16.3
U+51EC	kRSUnicode	16.5
U+51FC	kRSUnicode	17.4
U+520D	kRSUnicode	18.3
U+52D7	kRSUnicode	72.7 73.7
U+52F2	kRSUnicode	19.13
U+5344	kRSUnicode	1.2
U+535F	kRSUnicode	25.3
U+5367	kRSUnicode	25.6
U+53AF	kRSUnicode	27.12
U+53BC	kRSUnicode	28.3
U+555F	kRSUnicode	66.7
U+55B6	kRSUnicode	30.9
U+5645	kRSUnicode	30.9
U+5655	kRSUnicode	87.11
U+56D8	kRSUnicode	31.2
U+57CA	kRSUnicode	32.7
U+5815	kRSUnicode	32.8
U+5841	kRSUnicode	32.9
U+58A8	kRSUnicode	203.3
U+593B	kRSUnicode	37.3
U+599B	kRSUnicode	38.4
U+5A04	kRSUnicode	119.3
U+5C06	kRSUnicode	41.6
U+5C21	kRSUnicode	42.11
U+5C27	kRSUnicode	43.3
U+5C2D	kRSUnicode	43.5
U+5C39	kRSUnicode	4.3
U+5C57	kRSUnicode	44.7
U+5C58	kRSUnicode	44.7
U+5DD7	kRSUnicode	46.19
U+5DE1	kRSUnicode	162.3
U+5E42	kRSUnicode	50.9
U+5F6A	kRSUnicode	141.3
U+5FA4	kRSUnicode	60.8

U+616D	kRSUnicode	61.12
U+641C	kRSUnicode	64.10
U+6452	kRSUnicode	64.9
U+6530	kRSUnicode	65.2
U+654C	kRSUnicode	66.6
U+663C	kRSUnicode	72.5
U+66F1	kRSUnicode	73.1
U+6700	kRSUnicode	13.10
U+6721	kRSUnicode	130.9
U+6730	kRSUnicode	75.1
U+6B76	kRSUnicode	77.11
U+6BD7	kRSUnicode	81.5
U+6C39	kRSUnicode	85.1
U+6CF5	kRSUnicode	112.4
U+6E81	kRSUnicode	85.9
U+6ECB	kRSUnicode	85.9
U+70FE	kRSUnicode	86.7
U+715B	kRSUnicode	86.9
U+7275	kRSUnicode	93.5
U+732A	kRSUnicode	94.8
U+732B	kRSUnicode	94.8
U+738A	kRSUnicode	96.1
U+7409	kRSUnicode	96.6
U+7551	kRSUnicode	102.4
U+7553	kRSUnicode	102.4
U+7568	kRSUnicode	119.5
U+761F	kRSUnicode	104.9
U+7640	kRSUnicode	104.12
U+7740	kRSUnicode	109.7 123.5
U+7761	kRSUnicode	109.9
U+79CC	kRSUnicode	115.4
U+7ADF	kRSUnicode	180.2
U+7AE0	kRSUnicode	180.2
U+7DD0	kRSUnicode	120.7
U+7FF5	kRSUnicode	124.11
U+8270	kRSUnicode	138.2
U+8346	kRSUnicode	140.6
U+836B	kRSUnicode	140.6
U+842C	kRSUnicode	114.8
U+84B8	kRSUnicode	86.10
U+84E5	kRSUnicode	140.11
U+8531	kRSUnicode	140.11
U+8652	kRSUnicode	27.8
U+87D7	kRSUnicode	142.10
U+8801	kRSUnicode	142.11
U+8996	kRSUnicode	113.7
U+8D01	kRSUnicode	66.14
U+8D67	kRSUnicode	155.4
U+8F9E	kRSUnicode	160.6
U+8FAE	kRSUnicode	160.13
U+968F	kRSUnicode	170.9
U+96BE	kRSUnicode	172.2
U+96D0	kRSUnicode	172.6
U+9765	kRSUnicode	176.6
U+9819	kRSUnicode	181.4

U+9848	kRSUnicode	181.8
U+98F1	kRSUnicode	184.4
U+9943	kRSUnicode	184.10
U+9D64	kRSUnicode	148.11
U+9DE0	kRSUnicode	195.11
U+9ED9	kRSUnicode	86.11
U+9EEF	kRSUnicode	203.9
U+9F90	kRSUnicode	53.16
U+2053B	kRSUnicode	134.58
U+2056B	kRSUnicode	61.11
U+21014	kRSUnicode	30.12
U+21832	kRSUnicode	38.12
U+221A1	kRSUnicode	5.13 39.11
U+2227C	kRSUnicode	53.10
U+22FA3	kRSUnicode	66.8
U+2305B	kRSUnicode	66.11
U+244BC	kRSUnicode	86.19
U+244C7	kRSUnicode	86.19
U+24AE2	kRSUnicode	96.22
U+26451	kRSUnicode	61.11
U+26967	kRSUnicode	134.3
U+26EC7	kRSUnicode	61.15
U+28C6A	kRSUnicode	168.4
U+28C96	kRSUnicode	168.10
U+29066	kRSUnicode	172.16
U+2984F	kRSUnicode	186.8

Adjusted:

U+4E60	kRSUnicode	5.2 15.1
U+4E78	kRSUnicode	5.7 80.3
U+4E90	kRSUnicode	1.2 7.1
U+4EB2	kRSUnicode	8.7 117.4
U+4F64	kRSUnicode	9.5
U+503B	kRSUnicode	9.9
U+50F7	kRSUnicode	9.13
U+51E6	kRSUnicode	16.3 34.2
U+51EC	kRSUnicode	16.5 182.0
U+51FC	kRSUnicode	17.4 85.2
U+520D	kRSUnicode	18.3 58.2
U+52D7	kRSUnicode	72.7 73.7 19.9
U+52F2	kRSUnicode	19.13 86.11
U+5344	kRSUnicode	1.2 24.1
U+535F	kRSUnicode	25.3 30.2
U+5367	kRSUnicode	25.6 131.2
U+53AF	kRSUnicode	27.11 61.10
U+53BC	kRSUnicode	28.3 42.2
U+555F	kRSUnicode	66.7 30.8
U+55B6	kRSUnicode	30.9 42.9
U+5645	kRSUnicode	30.12
U+5655	kRSUnicode	87.11 30.12
U+56D8	kRSUnicode	13.3
U+57CA	kRSUnicode	32.7 46.7
U+5815	kRSUnicode	32.9
U+5841	kRSUnicode	32.9 102.7
U+58A8	kRSUnicode	203.3 32.12
U+593B	kRSUnicode	37.3 30.3

U+599B	kRSUnicode	38.4	46.4
U+5A04	kRSUnicode	119.3	38.6
U+5C06	kRSUnicode	41.6	90'.6
U+5C21	kRSUnicode	42.11	10.12
U+5C27	kRSUnicode	43.3	10.4
U+5C2D	kRSUnicode	43.5	10.6
U+5C39	kRSUnicode	4.3	44.1
U+5C57	kRSUnicode	44.7	41.7
U+5C58	kRSUnicode	44.7	39.7
U+5DD7	kRSUnicode	46.19	46.20
U+5DE1	kRSUnicode	162.3	47.4
U+5E42	kRSUnicode	50.9	14.10
U+5F6A	kRSUnicode	141.5	59.8
U+5FA4	kRSUnicode	60.9	
U+616D	kRSUnicode	61.11	
U+641C	kRSUnicode	64.9	
U+6452	kRSUnicode	64.11	
U+6530	kRSUnicode	65.2	19.4
U+654C	kRSUnicode	66.6	135.4
U+663C	kRSUnicode	72.5	44.6
U+66F1	kRSUnicode	73.1	102.0
U+6700	kRSUnicode	13.10	73.8
U+6721	kRSUnicode	130.9	74.9
U+6730	kRSUnicode	75.1	5.4
U+6B76	kRSUnicode	77.11	114.10
U+6BD7	kRSUnicode	81.5	102.4
U+6C39	kRSUnicode	85.1	5.4
U+6CF5	kRSUnicode	112.4	85.5
U+6E81	kRSUnicode	85.10	
U+6ECB	kRSUnicode	85.9	85.10
U+70FE	kRSUnicode	86.7	32.8
U+715B	kRSUnicode	86.10	109.9
U+7275	kRSUnicode	93.5	37.6
U+732A	kRSUnicode	94.8	94.9
U+732B	kRSUnicode	94.9	
U+738A	kRSUnicode	96.1	96.0
U+7409	kRSUnicode	96.6	96.7
U+7551	kRSUnicode	102.4	86.5
U+7553	kRSUnicode	102.4	85.5
U+7568	kRSUnicode	119.5	102.6
U+761F	kRSUnicode	104.9	104.10
U+7640	kRSUnicode	104.12	104.11
U+7740	kRSUnicode	109.7	123.5 109.6
U+7761	kRSUnicode	109.9	109.8
U+79CC	kRSUnicode	115.4	86.5
U+7ADF	kRSUnicode	180.2	117.6
U+7AE0	kRSUnicode	180.2	117.6
U+7DD0	kRSUnicode	120.8	
U+7FF5	kRSUnicode	124.11	196.6
U+8270	kRSUnicode	138.2	29.6
U+8346	kRSUnicode	140.6	18.8
U+836B	kRSUnicode	140.7	
U+842C	kRSUnicode	114.8	140.9
U+84B8	kRSUnicode	86.10	140.10
U+84E5	kRSUnicode	140.10	

U+8531	kRSUnicode	140.11	140.10
U+8652	kRSUnicode	27.8	141.4
U+87D7	kRSUnicode	142.	12
U+8801	kRSUnicode	142.	12
U+8996	kRSUnicode	113.7	147.5
U+8D01	kRSUnicode	66.14	154.11
U+8D67	kRSUnicode	155.	5
U+8F9E	kRSUnicode	160.6	135.7
U+8FAE	kRSUnicode	160.13	120.14
U+968F	kRSUnicode	170.	10
U+96BE	kRSUnicode	172.2	29.8
U+96D0	kRSUnicode	172.6	141.8
U+9765	kRSUnicode	176.6	27.13
U+9819	kRSUnicode	181.	5
U+9848	kRSUnicode	181.8	120.11
U+98F1	kRSUnicode	184.4	78.9
U+9943	kRSUnicode	184.	11
U+9D64	kRSUnicode	148.11	196.7
U+9DE0	kRSUnicode	195.11	196.11
U+9ED9	kRSUnicode	86.11	203.4
U+9EEF	kRSUnicode	203.9	180.12
U+9F90	kRSUnicode	53.16	212.3
U+2053B	kRSUnicode	134.58	12.62
U+2056B	kRSUnicode	61.11	13.13
U+21014	kRSUnicode	30.	13
U+21832	kRSUnicode	38.	11
U+221A1	kRSUnicode	5.13	39.11 51.11
U+2227C	kRSUnicode	53.	9
U+22FA3	kRSUnicode	66.8	66.7
U+2305B	kRSUnicode	66.11	67.11
U+244BC	kRSUnicode	86.19	86.18
U+244C7	kRSUnicode	86.	18
U+24AE2	kRSUnicode	96.	21
U+26451	kRSUnicode	61.11	124.8
U+26967	kRSUnicode	134.	4
U+26EC7	kRSUnicode	61.	14 45.15
U+28C6A	kRSUnicode	168.	5
U+28C96	kRSUnicode	168.	9
U+29066	kRSUnicode	172.	15
U+2984F	kRSUnicode	186.	9

13) L2/22-186: Proposal to Correct Several kMandarin Readings For Japanese-made Kanji

Comments: The group reviewed this proposal, which includes 22 *kMandarin* property value changes, all of which were deemed reasonable, and which will need to be checked by the CLDR-TC prior to updating the Unihan database.

Recommendations: The group recommends to the UTC the following disposition ⇨

Action Item for Peter Edberg, CJK: Ask the CLDR-TC to check the proposed *kMandarin* property value changes, then report back to the UTC. See document L2/22-186 and Section 13 of document L2/22-247.

14) L2/22-200: Proposal to enhance the kRSUnicode property for non-Chinese simplified radicals

Comments: The group discussed this proposal, which is an enhancement to the Syntax of the informative *kRSUnicode* property to identify non-Chinese simplified radicals, such as those used for Japanese and Vietnamese. This affects Radicals 182, 208, and 210 through 213. The group agreed that it is helpful to distinguish non-Chinese simplified radicals from Chinese simplified ones, so this is a useful enhancement to this property. In addition to the proposed *kRSUnicode* property value changes that were included with the proposal, the group came up with 13 additional property value changes that affect Radicals 182, 210, and 212.

Like with the proposed update for the provisional *kMorohashi* property, U+0022 " QUOTATION MARK cannot be used in Unihan database property data, so the group agreed that a sequence of two U+0027 ' APOSTROPHE characters should be used instead. The proposed Syntax change should therefore be adjusted to become the following (changes in **red**):

```
[1-9][0-9]{0,2}\{'{0,2}\.-?[0-9]{1,2}
```

For the Description, the red-highlighted sentence on page 2 of the proposal should be changed to the following (changes in **red**):

*A **sequence of two apostrophes** (") after the radical indicates a non-Chinese simplified version of the given radical.*

In addition to updating the sorting algorithm in Section 2.1.2 of UAX #38 as specified in the proposal, the sixth paragraph of Section 3.6 also needs to be updated to reflect non-Chinese simplified radicals.

Although not specified in the proposal, the UCD's *CJKRadicals.txt* data file is affected, and would require the following change to its header plus the following four additional lines (changes in **red**):

```
# CJK radical numbers match the regular expression [1-9][0-9]{0,2}\{'{0,2}  
# and in particular they can end with a single or double U+0027 ' APOSTROPHE.
```

```
210''; 2EEB; 6589  
211''; 2EED; 6B6F  
212''; 2EEF; 7ADC  
213''; 2EF2; 4E80
```

See the attached *CJKRadicals-20221021.txt* data file.

The group also discussed the need to improve the documentation about simplified radicals in the Core Specification, and adding numbered annotations to the Kangxi Radicals and CJK Radicals Supplement blocks. Adding numbered annotations to the former block is non-controversial, because the characters in that block represent Kangxi Radicals 1 through 214, and the attached *NamesList-20221021.txt* data file provides the necessary information. Below is the *NamesList.txt* data file entry U+2F00 — KANGXI RADICAL ONE with the new line highlighted in **red**:

```
2F00    KANGXI RADICAL ONE  
        * Kangxi Radical 1  
        # 4E00
```

Below is a mockup of what the corresponding code chart entry would look like:

2F00 → KANGXI RADICAL ONE
• Kangxi Radical 1
≈ 4E00 →

Adding numbered annotations to the latter block will be addressed in a future proposal.

Recommendations: The group recommends to the UTC the following disposition ⇨

Consensus: Accept the change to the informative kRSUnicode property to accommodate non-Chinese simplified radicals, the changes and additions to the UCD's CJKRadicals.txt data file, and the corresponding 70 kRSUnicode property value changes, based on document L2/22-200 and as amended in Section 14 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, EDC: Revise the Syntax and Description of the informative kRSUnicode property in UAX #38, update the sorting algorithm in Section 2.1.2 of UAX #38, and update Section 3.6 of UAX #38 to reflect non-Chinese simplified radicals, based on document L2/22-200 and as amended in Section 14 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for Markus Scherer, PAG: Update the UCD's CJKRadicals.txt data file, based Section 14 of document L2/22-247 and its attached CJKRadicals-20221021.txt data file, for the next version of the Unicode Standard.

Action Item for Michel Suignard, CJK: Change the 70 kRSUnicode property values, based on L2/22-200 and as amended in Section 14 of document L2/22-247, and provide to John Jenkins an updated Unihan data file, for the next version of the Unicode Standard.

Action Item for John Jenkins, CJK: Update the Unihan database to reflect the 70 kRSUnicode property value changes, based on document L2/22-200 and as amended in Section 14 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, CJK: Improve the documentation about simplified radicals in the Core Specification, based on Section 14 of document L2/22-247, for a future version of the Unicode Standard.

Action Item for Ken Whister, EDC: Add the numbered annotations for the 214 characters in the Kangxi Radicals block to NamesList.txt, based Section 14 of document L2/22-247 and its attached NamesList-20221021.txt data file, for the next version of the Unicode Standard.

Action Item for Ken Lunde, CJK: Prepare a proposal for adding numbered annotations for the radicals in the CJK Radicals Supplement block, based on Section 14 of document L2/22-247.

Current:

U+4E80	kRSUnicode	5.10 213.0
U+5264	kRSUnicode	18.8
U+6589	kRSUnicode	67.4 210.0
U+6B6F	kRSUnicode	77.8 211.0
U+7ADC	kRSUnicode	117.5 212.0
U+9F21	kRSUnicode	208.0

U+9F62	kRSUnicode	211.5
U+21676	kRSUnicode	37.11 212.4
U+23BE1	kRSUnicode	82.10 212.4
U+2412F	kRSUnicode	85.18 212.11
U+25269	kRSUnicode	109.10 212.5
U+25A9D	kRSUnicode	117.9 212.4
U+25A9E	kRSUnicode	117.9 212.4
U+2964C	kRSUnicode	182.13
U+2A5F1	kRSUnicode	211.5
U+2A602	kRSUnicode	211.6
U+2A61A	kRSUnicode	211.7
U+2A6B2	kRSUnicode	213.4
U+2A95B	kRSUnicode	37.10 212.3
U+2AC6F	kRSUnicode	74.17 212.11
U+2ADF9	kRSUnicode	85.15 212.8
U+2AF5E	kRSUnicode	102.10 212.5
U+2AFC1	kRSUnicode	109.14 212.9
U+2B3FD	kRSUnicode	159.10 212.7
U+2B5BC	kRSUnicode	182.5
U+2B5BD	kRSUnicode	182.8
U+2B5BE	kRSUnicode	182.9
U+2B5BF	kRSUnicode	182.9
U+2B5C0	kRSUnicode	182.10
U+2B5C1	kRSUnicode	182.10
U+2B5C2	kRSUnicode	182.10
U+2B5C3	kRSUnicode	182.13
U+2B5C4	kRSUnicode	182.13
U+2B818	kRSUnicode	208.5
U+2B81A	kRSUnicode	211.5
U+2B81D	kRSUnicode	213.12
U+2B840	kRSUnicode	1.15
U+2BDD9	kRSUnicode	51.10
U+2C099	kRSUnicode	74.17 212.11
U+2C514	kRSUnicode	116.13 212.8
U+2CC76	kRSUnicode	182'.4
U+2CC79	kRSUnicode	182'.5
U+2CC81	kRSUnicode	182'.9
U+2CC82	kRSUnicode	182'.9
U+2CC83	kRSUnicode	182'.10
U+2CC84	kRSUnicode	182'.10
U+2CC87	kRSUnicode	182'.13
U+2CC88	kRSUnicode	182'.16
U+2CE74	kRSUnicode	211.5
U+2CE97	kRSUnicode	212.3
U+2CE98	kRSUnicode	212.3
U+2CE99	kRSUnicode	212.7
U+2CE9A	kRSUnicode	212.8
U+2E13F	kRSUnicode	117.25 212.20
U+2EBBE	kRSUnicode	211.2
U+2EBC3	kRSUnicode	211.5
U+2EBC5	kRSUnicode	211.6
U+2EBC7	kRSUnicode	211.7
U+2EBC8	kRSUnicode	211.8
U+2EBCB	kRSUnicode	211.9
U+2EBCC	kRSUnicode	211.9

U+2EBCE	kRSUnicode	211.9
U+318E8	kRSUnicode	75.8
U+31EE2	kRSUnicode	124.10
U+322C4	kRSUnicode	182.0
U+322C7	kRSUnicode	182.9
U+322C8	kRSUnicode	182.9
U+322CB	kRSUnicode	182.13
U+323AC	kRSUnicode	212.5
U+323AD	kRSUnicode	212.9

Adjusted:

U+4E80	kRSUnicode	5.10	213'''.0
U+5264	kRSUnicode	18.8	210'''.2
U+6589	kRSUnicode	67.4	210'''.0
U+6B6F	kRSUnicode	77.8	211'''.0
U+7ADC	kRSUnicode	117.5	212'''.0
U+9F21	kRSUnicode	208'''.0	
U+9F62	kRSUnicode	211'''.5	
U+21676	kRSUnicode	37.11	212'''.4
U+23BE1	kRSUnicode	82.10	212'''.4
U+2412F	kRSUnicode	85.18	212'''.11
U+25269	kRSUnicode	109.10	212'''.5
U+25A9D	kRSUnicode	117.9	212'''.4
U+25A9E	kRSUnicode	117.9	212'''.4
U+2964C	kRSUnicode	182'''.13	
U+2A5F1	kRSUnicode	211'''.5	
U+2A602	kRSUnicode	211'''.6	
U+2A61A	kRSUnicode	211'''.7	
U+2A6B2	kRSUnicode	213'''.4	
U+2A95B	kRSUnicode	37.10	212'''.3
U+2AC6F	kRSUnicode	74.17	212'''.11
U+2ADF9	kRSUnicode	85.15	212'''.8
U+2AF5E	kRSUnicode	102.10	212'''.5
U+2AFC1	kRSUnicode	109.14	212'''.9
U+2B3FD	kRSUnicode	159.10	212'''.7
U+2B5BC	kRSUnicode	182'''.5	
U+2B5BD	kRSUnicode	182'''.8	
U+2B5BE	kRSUnicode	182'''.9	
U+2B5BF	kRSUnicode	182'''.9	
U+2B5C0	kRSUnicode	182'''.10	
U+2B5C1	kRSUnicode	182'''.10	
U+2B5C2	kRSUnicode	182'''.10	
U+2B5C3	kRSUnicode	182'''.13	
U+2B5C4	kRSUnicode	182'''.13	
U+2B818	kRSUnicode	208'''.5	
U+2B81A	kRSUnicode	211'''.5	
U+2B81D	kRSUnicode	213'''.12	
U+2B840	kRSUnicode	1.15	210'''.8
U+2BDD9	kRSUnicode	51.10	210'''.5
U+2C099	kRSUnicode	74.7	212'''.11
U+2C514	kRSUnicode	116.13	212'''.8
U+2CC76	kRSUnicode	182'''.4	
U+2CC79	kRSUnicode	182'''.5	
U+2CC81	kRSUnicode	182'''.9	
U+2CC82	kRSUnicode	182'''.9	
U+2CC83	kRSUnicode	182'''.10	

U+2CC84	kRSUnicode	182'' .10
U+2CC87	kRSUnicode	182'' .13
U+2CC88	kRSUnicode	182'' .16
U+2CE74	kRSUnicode	211'' .5
U+2CE97	kRSUnicode	212'' .3
U+2CE98	kRSUnicode	212'' .3
U+2CE99	kRSUnicode	212'' .7
U+2CE9A	kRSUnicode	212'' .8
U+2E13F	kRSUnicode	117.25 212'' .20
U+2EBBE	kRSUnicode	211'' .2
U+2EBC3	kRSUnicode	211'' .5
U+2EBC5	kRSUnicode	211'' .6
U+2EBC7	kRSUnicode	211'' .7
U+2EBC8	kRSUnicode	211'' .8
U+2EBCB	kRSUnicode	211'' .9
U+2EBCC	kRSUnicode	211'' .9
U+2EBCE	kRSUnicode	211'' .9
U+318E8	kRSUnicode	75.8 182'' .8
U+31EE2	kRSUnicode	124.10 212'' .6
U+322C4	kRSUnicode	182'' .0
U+322C7	kRSUnicode	182'' .9
U+322C8	kRSUnicode	182'' .9
U+322CB	kRSUnicode	182'' .13
U+323AC	kRSUnicode	212'' .5
U+323AD	kRSUnicode	212'' .9

15) L2/22-193: Proposal for kRSUnicode and kTotalStrokes changes

Comments: The group discussed this proposal, which includes nine *kRSUnicode* and 246 *kTotalStrokes* property value changes in the Extension A range U+4491 through U+4587 (247 ideographs). In other words, every *kTotalStrokes* property value in this range was incorrect except for one code point (U+453C 𪗇).

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

Consensus: Accept the nine *kRSUnicode* and 246 *kTotalStrokes* property value changes, based on document L2/22-193 and Section 15 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for Michel Suignard, CJK: Change the nine *kRSUnicode* and 246 *kTotalStrokes* property values, based on L2/22-193 and Section 15 of document L2/22-247, and provide to John Jenkins an updated Unihan data file, for the next version of the Unicode Standard.

Action Item for John Jenkins, CJK: Update the Unihan database to reflect the nine *kRSUnicode* and 246 *kTotalStrokes* property value changes, based on document L2/22-193 and Section 15 of document L2/22-247, for the next version of the Unicode Standard.

Current—*kRSUnicode*:

U+44F1	kRSUnicode	140.9
U+451D	kRSUnicode	140.11
U+453C	kRSUnicode	140.12
U+4542	kRSUnicode	140.12
U+4544	kRSUnicode	140.12

U+4545	kRSUnicode	140.13
U+4560	kRSUnicode	140.15
U+457D	kRSUnicode	140.19
U+457F	kRSUnicode	140.21

Adjusted—*kRSUnicode*:

U+44F1	kRSUnicode	140. 10
U+451D	kRSUnicode	140. 12
U+453C	kRSUnicode	140. 14
U+4542	kRSUnicode	140. 13
U+4544	kRSUnicode	140. 11
U+4545	kRSUnicode	140. 12
U+4560	kRSUnicode	140. 16
U+457D	kRSUnicode	140. 20
U+457F	kRSUnicode	140. 22

Current—*kTotalStrokes*:

U+4491	kTotalStrokes	6
U+4492	kTotalStrokes	8
U+4493	kTotalStrokes	8
U+4494	kTotalStrokes	8
U+4495	kTotalStrokes	9
U+4496	kTotalStrokes	9
U+4497	kTotalStrokes	9
U+4498	kTotalStrokes	9
U+4499	kTotalStrokes	9
U+449A	kTotalStrokes	10
U+449B	kTotalStrokes	10
U+449C	kTotalStrokes	10
U+449D	kTotalStrokes	10
U+449E	kTotalStrokes	10
U+449F	kTotalStrokes	10
U+44A0	kTotalStrokes	10
U+44A1	kTotalStrokes	10
U+44A2	kTotalStrokes	10
U+44A3	kTotalStrokes	10
U+44A4	kTotalStrokes	10
U+44A5	kTotalStrokes	10
U+44A6	kTotalStrokes	11
U+44A7	kTotalStrokes	11
U+44A8	kTotalStrokes	11
U+44A9	kTotalStrokes	11
U+44AA	kTotalStrokes	11
U+44AB	kTotalStrokes	11
U+44AC	kTotalStrokes	11
U+44AD	kTotalStrokes	11
U+44AE	kTotalStrokes	11
U+44AF	kTotalStrokes	11
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U+44B3	kTotalStrokes	12
U+44B4	kTotalStrokes	12
U+44B5	kTotalStrokes	12
U+44B6	kTotalStrokes	12
U+44B7	kTotalStrokes	12

U+44B8	kTotalStrokes	12
U+44B9	kTotalStrokes	12
U+44BA	kTotalStrokes	12
U+44BB	kTotalStrokes	12
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U+44EA	kTotalStrokes	14
U+44EB	kTotalStrokes	14
U+44EC	kTotalStrokes	14
U+44ED	kTotalStrokes	14
U+44EE	kTotalStrokes	15

U+44EF	kTotalStrokes	15
U+44F0	kTotalStrokes	15
U+44F1	kTotalStrokes	15
U+44F2	kTotalStrokes	15
U+44F3	kTotalStrokes	15
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U+4561	kTotalStrokes	21
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U+457E	kTotalStrokes	26
U+457F	kTotalStrokes	27
U+4580	kTotalStrokes	27
U+4581	kTotalStrokes	28
U+4582	kTotalStrokes	29
U+4583	kTotalStrokes	29
U+4584	kTotalStrokes	29
U+4585	kTotalStrokes	30
U+4586	kTotalStrokes	30
U+4587	kTotalStrokes	35

Adjusted—*kTotalStrokes*:

U+4491	kTotalStrokes	3
U+4492	kTotalStrokes	6
U+4493	kTotalStrokes	6
U+4494	kTotalStrokes	6
U+4495	kTotalStrokes	7
U+4496	kTotalStrokes	7
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U+449A	kTotalStrokes	8
U+449B	kTotalStrokes	8
U+449C	kTotalStrokes	8

U+449D	kTotalStrokes	8
U+449E	kTotalStrokes	8
U+449F	kTotalStrokes	8
U+44A0	kTotalStrokes	8
U+44A1	kTotalStrokes	8
U+44A2	kTotalStrokes	8
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U+44AC	kTotalStrokes	9
U+44AD	kTotalStrokes	9
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U+44DC	kTotalStrokes	12
U+44DD	kTotalStrokes	12
U+44DE	kTotalStrokes	12
U+44DF	kTotalStrokes	12
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U+44EF	kTotalStrokes	13
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U+450C	kTotalStrokes	14
U+450D	kTotalStrokes	14
U+450E	kTotalStrokes	15
U+450F	kTotalStrokes	15
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U+454E	kTotalStrokes	17
U+454F	kTotalStrokes	17
U+4550	kTotalStrokes	17
U+4551	kTotalStrokes	17
U+4552	kTotalStrokes	18
U+4553	kTotalStrokes	18
U+4554	kTotalStrokes	18
U+4555	kTotalStrokes	18
U+4556	kTotalStrokes	18
U+4557	kTotalStrokes	18
U+4558	kTotalStrokes	18
U+4559	kTotalStrokes	18
U+455A	kTotalStrokes	18
U+455B	kTotalStrokes	18
U+455C	kTotalStrokes	18
U+455D	kTotalStrokes	18
U+455E	kTotalStrokes	19
U+455F	kTotalStrokes	19
U+4560	kTotalStrokes	20
U+4561	kTotalStrokes	19
U+4562	kTotalStrokes	19
U+4563	kTotalStrokes	19
U+4564	kTotalStrokes	19
U+4565	kTotalStrokes	19
U+4566	kTotalStrokes	20
U+4567	kTotalStrokes	20
U+4568	kTotalStrokes	20
U+4569	kTotalStrokes	20
U+456A	kTotalStrokes	20
U+456B	kTotalStrokes	20
U+456C	kTotalStrokes	20
U+456D	kTotalStrokes	20
U+456E	kTotalStrokes	20
U+456F	kTotalStrokes	20
U+4570	kTotalStrokes	20
U+4571	kTotalStrokes	20
U+4572	kTotalStrokes	20
U+4573	kTotalStrokes	21
U+4574	kTotalStrokes	21
U+4575	kTotalStrokes	21
U+4576	kTotalStrokes	21
U+4577	kTotalStrokes	21
U+4578	kTotalStrokes	22
U+4579	kTotalStrokes	22

U+457A	kTotalStrokes	22
U+457B	kTotalStrokes	23
U+457C	kTotalStrokes	23
U+457D	kTotalStrokes	24
U+457E	kTotalStrokes	24
U+457F	kTotalStrokes	26
U+4580	kTotalStrokes	25
U+4581	kTotalStrokes	26
U+4582	kTotalStrokes	27
U+4583	kTotalStrokes	27
U+4584	kTotalStrokes	27
U+4585	kTotalStrokes	28
U+4586	kTotalStrokes	28
U+4587	kTotalStrokes	33

16) L2/22-190: Proposal for kStrange property value changes and additions

Comments: The group discussed this proposal, which provides seven (7) property value changes and 61 property value additions for the provisional *kStrange* property. The group deemed that these property value changes and additions were reasonable.

UTN #43 will be updated sometime in late 2022 or early 2023 to reflect these property value changes and additions, and to update the large number of Extension B code chart excerpts to the latest versions that do not include the UCS2003 representative glyphs.

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

Action Item for John Jenkins, CJK: Apply the property value additions and changes to the *kStrange* property, based on document L2/22-190 and Section 16 of document L2/22-247, for the next version of the Unicode Standard.

New:

U+4FAA	kStrange	I:U+346A
U+5242	kStrange	I:U+5264
U+54DC	kStrange	I
U+6324	kStrange	I:U+3A08
U+66F1	kStrange	I:U+7532
U+6D4E	kStrange	I:U+6E08
U+7534	kStrange	I:U+7531
U+8110	kStrange	I:U+2671D
U+8360	kStrange	I:U+8415
U+86F4	kStrange	I
U+8DFB	kStrange	I:U+2808B
U+9701	kStrange	I:U+2CC01
U+20B9A	kStrange	B:U+3116
U+23943	kStrange	I:U+6B64
U+28828	kStrange	I
U+2AC8E	kStrange	I
U+2B145	kStrange	I
U+2B7A6	kStrange	I
U+2BBDB	kStrange	I:U+5929:U+592D
U+2BE8A	kStrange	I:U+2D75A
U+2CBC0	kStrange	I:U+2B545

U+2CE3E	kStrange	I
U+2CF3D	kStrange	I:U+793A
U+308EC	kStrange	I
U+30A26	kStrange	I
U+31318	kStrange	I
U+3136B	kStrange	U
U+31378	kStrange	I:U+6C0F
U+313A0	kStrange	U
U+313FF	kStrange	I:U+51C5:U+205C3
U+31415	kStrange	U
U+3156D	kStrange	F
U+315A6	kStrange	U
U+31651	kStrange	I
U+3176A	kStrange	U
U+3179C	kStrange	U
U+317DB	kStrange	S:64
U+31879	kStrange	F
U+318D3	kStrange	I:U+68B9
U+3190F	kStrange	U
U+3193B	kStrange	M:U+6B62
U+31972	kStrange	I:U+6D27
U+31986	kStrange	U
U+31993	kStrange	I:6D6E
U+31AC5	kStrange	I
U+31AE3	kStrange	I
U+31B31	kStrange	F
U+31B35	kStrange	I
U+31C1C	kStrange	M:U+7529
U+31C44	kStrange	0
U+31C46	kStrange	S:41 U
U+31C75	kStrange	I:U+767B
U+31E33	kStrange	U
U+31E41	kStrange	I
U+31E6B	kStrange	R:U+25F87
U+31FDD	kStrange	K:U+30B1
U+32053	kStrange	R
U+320D4	kStrange	I:U+27FC7
U+321A1	kStrange	F
U+3228E	kStrange	U
U+3238A	kStrange	I

Current:

U+2A6D7	kStrange	0
U+2A6D8	kStrange	0
U+2A6D9	kStrange	0
U+2A6DA	kStrange	0
U+2A6DB	kStrange	0
U+2A6DC	kStrange	0
U+2A6DD	kStrange	0

Adjusted:

U+2A6D7	kStrange	0:U+5408
U+2A6D8	kStrange	0:U+56DB
U+2A6D9	kStrange	0:U+4E00
U+2A6DA	kStrange	0:U+4E0A
U+2A6DB	kStrange	0:U+5C3A

U+2A6DC kStrange
U+2A6DD kStrange

0:U+5DE5
0:U+51E1

17) L2/22-192: Proposal for kSimplifiedVariant and kTraditionalVariant changes and additions

Comments: The group discussed this proposal, which provides 50 new *kSimplifiedVariant* property values, seven (7) *kSimplifiedVariant* property value changes, and 57 *kTraditionalVariant* property value changes. The group deemed that these property value changes and additions were reasonable.

The group noted that the following line in the attached *kTraditionalVariant-data.txt* data file should have been prefixed with a “+” not a “-”:

```
-U+6CA9 kTraditionalVariant U+6E88 U+6F59
```

The group also discussed the need to update Section 3.7.1 of UAX #38 to cover cases of simplified/traditional pairs that are affected by the Source Separation Rule, such as 1) when the traditional variant that is common in TW/HK is not identical to the official traditional variant as defined by CN standards, such as 为 versus 為 (HK, TW) / 爲 (CN); and 2) when the traditional variant that is common in TW/HK diverges, whereby the preferred HK traditional variant is identical to the official traditional variant as defined by CN standards, such as 说 versus 說 (HK, CN) / 說 (TW).

Recommendations: The group recommends to the UTC the following disposition ⇨

Action Item for John Jenkins, CJK: Apply the property value additions and changes to the *kSimplifiedVariant* and *kTraditionalVariant* properties, based on document L2/22-192 and as amended in Section 17 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, EDC: Update Section 3.7.1 of UAX #38 to cover cases of simplified/traditional pairs that are affected by the Source Separation Rule, based on Section 17 of document L2/22-247, for the next version of the Unicode Standard.

New—*kSimplifiedVariant*:

U+53A0	<i>kSimplifiedVariant</i>	U+5395
U+5553	<i>kSimplifiedVariant</i>	U+542F
U+56AE	<i>kSimplifiedVariant</i>	U+5411
U+56CC	<i>kSimplifiedVariant</i>	U+82CF
U+57BB	<i>kSimplifiedVariant</i>	U+575D
U+58BB	<i>kSimplifiedVariant</i>	U+5899
U+5B00	<i>kSimplifiedVariant</i>	U+59AB
U+5F46	<i>kSimplifiedVariant</i>	U+522B
U+6164	<i>kSimplifiedVariant</i>	U+60AB
U+6BBB	<i>kSimplifiedVariant</i>	U+58F3
U+6DC0	<i>kSimplifiedVariant</i>	U+6DC0
U+6F59	<i>kSimplifiedVariant</i>	U+6CA9
U+7232	<i>kSimplifiedVariant</i>	U+4E3A
U+7523	<i>kSimplifiedVariant</i>	U+4EA7
U+763B	<i>kSimplifiedVariant</i>	U+7618
U+7AEA	<i>kSimplifiedVariant</i>	U+7AD6
U+7C64	<i>kSimplifiedVariant</i>	U+7B7E

U+7D76	kSimplifiedVariant	U+7EDD
U+7D89	kSimplifiedVariant	U+7EE3
U+7DAB	kSimplifiedVariant	U+7EBF
U+7DB3	kSimplifiedVariant	U+7EF7
U+7DD1	kSimplifiedVariant	U+7EFF
U+7DFC	kSimplifiedVariant	U+7F0A
U+7F4E	kSimplifiedVariant	U+575B
U+846F	kSimplifiedVariant	U+836F
U+8493	kSimplifiedVariant	U+83BC
U+853F	kSimplifiedVariant	U+2B1ED
U+85F4	kSimplifiedVariant	U+8574
U+8846	kSimplifiedVariant	U+4F17
U+8879	kSimplifiedVariant	U+53EA
U+88CF	kSimplifiedVariant	U+91CC
U+8AAC	kSimplifiedVariant	U+8BF4
U+8B21	kSimplifiedVariant	U+8C23
U+8CEB	kSimplifiedVariant	U+8D4D
U+8D1C	kSimplifiedVariant	U+8D43 U+30DED
U+8F3C	kSimplifiedVariant	U+8F92
U+9196	kSimplifiedVariant	U+915D
U+9262	kSimplifiedVariant	U+94B5
U+92ED	kSimplifiedVariant	U+9510
U+9332	kSimplifiedVariant	U+5F55
U+93B8	kSimplifiedVariant	U+954C
U+9482	kSimplifiedVariant	U+954B
U+95B2	kSimplifiedVariant	U+9605
U+983D	kSimplifiedVariant	U+9893
U+9854	kSimplifiedVariant	U+989C
U+9951	kSimplifiedVariant	U+9965
U+99E1	kSimplifiedVariant	U+9A82
U+9B9D	kSimplifiedVariant	U+9C9E
U+9CEC	kSimplifiedVariant	U+51EB
U+9DC4	kSimplifiedVariant	U+9E21

Current—*kSimplifiedVariant*:

U+5641	kSimplifiedVariant	U+2BAC7
U+596C	kSimplifiedVariant	U+5968
U+6EF7	kSimplifiedVariant	U+306EE
U+7030	kSimplifiedVariant	U+3CFD
U+7CF0	kSimplifiedVariant	U+30AB6
U+7E34	kSimplifiedVariant	U+30B2E
U+896C	kSimplifiedVariant	U+4653

Adjusted—*kSimplifiedVariant*:

U+5641	kSimplifiedVariant	U+6076 U+2BAC7
U+596C	kSimplifiedVariant	U+5956 U+5968
U+6EF7	kSimplifiedVariant	U+5364 U+306EE
U+7030	kSimplifiedVariant	U+3CFD U+5F25
U+7CF0	kSimplifiedVariant	U+56E2 U+30AB6
U+7E34	kSimplifiedVariant	U+7EA4 U+30B2E
U+896C	kSimplifiedVariant	U+4653 U+6446

Current—*kTraditionalVariant*:

U+4E3A	kTraditionalVariant	U+70BA
U+4EA7	kTraditionalVariant	U+7522
U+4F17	kTraditionalVariant	U+4F17 U+773E
U+51EB	kTraditionalVariant	U+9CE7

U+522B	kTraditionalVariant	U+5225	U+522B
U+5364	kTraditionalVariant	U+9E75	
U+5395	kTraditionalVariant	U+5EC1	
U+53EA	kTraditionalVariant	U+53EA	U+6220 U+96BB
U+5411	kTraditionalVariant	U+5411	U+66CF
U+542F	kTraditionalVariant	U+555F	
U+56E2	kTraditionalVariant	U+5718	
U+575B	kTraditionalVariant	U+575B	U+58C7 U+7F48
U+575D	kTraditionalVariant	U+58E9	
U+5899	kTraditionalVariant	U+7246	
U+58F3	kTraditionalVariant	U+58F3	U+6BBC
U+5956	kTraditionalVariant	U+734E	
U+59AB	kTraditionalVariant	U+5AAF	
U+5F25	kTraditionalVariant	U+5F4C	
U+5F55	kTraditionalVariant	U+9304	
U+6076	kTraditionalVariant	U+60E1	
U+60AB	kTraditionalVariant	U+6128	
U+6446	kTraditionalVariant	U+6446	U+64FA
U+6CA9	kTraditionalVariant	U+6E88	
U+6DC0	kTraditionalVariant	U+6FB1	
U+7618	kTraditionalVariant	U+7618	U+763A
U+7AD6	kTraditionalVariant	U+8C4E	
U+7B7E	kTraditionalVariant	U+7C3D	
U+7EA4	kTraditionalVariant	U+7E96	
U+7EBF	kTraditionalVariant	U+7DDA	
U+7EDD	kTraditionalVariant	U+7D55	
U+7EE3	kTraditionalVariant	U+7E61	
U+7EF7	kTraditionalVariant	U+7E43	
U+7EFF	kTraditionalVariant	U+7DA0	
U+7F0A	kTraditionalVariant	U+7E15	
U+82CF	kTraditionalVariant	U+82CF	U+8607
U+836F	kTraditionalVariant	U+85E5	
U+83BC	kTraditionalVariant	U+84F4	
U+8574	kTraditionalVariant	U+860A	
U+8BF4	kTraditionalVariant	U+8AAA	
U+8C23	kTraditionalVariant	U+8B20	
U+8D43	kTraditionalVariant	U+8D13	
U+8D4D	kTraditionalVariant	U+9F4E	
U+8F92	kTraditionalVariant	U+8F40	
U+915D	kTraditionalVariant	U+919E	
U+91CC	kTraditionalVariant	U+88E1	U+91CC
U+94B5	kTraditionalVariant	U+7F3D	
U+9510	kTraditionalVariant	U+92B3	
U+954B	kTraditionalVariant	U+93B2	
U+954C	kTraditionalVariant	U+942B	
U+9605	kTraditionalVariant	U+95B1	
U+9893	kTraditionalVariant	U+9839	
U+989C	kTraditionalVariant	U+984F	
U+9965	kTraditionalVariant	U+98E2	
U+9A82	kTraditionalVariant	U+7F75	
U+9C9E	kTraditionalVariant	U+9BD7	
U+9E21	kTraditionalVariant	U+96DE	
U+2B1ED	kTraditionalVariant	U+848D	

Adjusted—*kTraditionalVariant*:

U+4E3A	kTraditionalVariant	U+70BA	U+7232
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U+4EA7	kTraditionalVariant	U+7522	U+7523	
U+4F17	kTraditionalVariant	U+4F17	U+773E	U+8846
U+51EB	kTraditionalVariant	U+9CE7	U+9CEC	
U+522B	kTraditionalVariant	U+5225	U+522B	U+5F46
U+5364	kTraditionalVariant	U+6EF7	U+9E75	
U+5395	kTraditionalVariant	U+53A0	U+5EC1	
U+53EA	kTraditionalVariant	U+53EA	U+6220	U+8879 U+96BB
U+5411	kTraditionalVariant	U+5411	U+56AE	U+66CF
U+542F	kTraditionalVariant	U+5553	U+555F	
U+56E2	kTraditionalVariant	U+5718	U+7CF0	
U+575B	kTraditionalVariant	U+575B	U+58C7	U+7F48 U+7F4E
U+575D	kTraditionalVariant	U+57BB	U+58E9	
U+5899	kTraditionalVariant	U+58BB	U+7246	
U+58F3	kTraditionalVariant	U+58F3	U+6BBB	U+6BBC
U+5956	kTraditionalVariant	U+596C	U+734E	
U+59AB	kTraditionalVariant	U+5AAF	U+5B00	
U+5F25	kTraditionalVariant	U+5F4C	U+7030	
U+5F55	kTraditionalVariant	U+9304	U+9332	
U+6076	kTraditionalVariant	U+5641	U+60E1	
U+60AB	kTraditionalVariant	U+6128	U+6164	
U+6446	kTraditionalVariant	U+6446	U+64FA	U+896C
U+6CA9	kTraditionalVariant	U+6E88	U+6F59	
U+6DC0	kTraditionalVariant	U+6DC0	U+6FB1	
U+7618	kTraditionalVariant	U+7618	U+763A	U+763B
U+7AD6	kTraditionalVariant	U+7AEA	U+8C4E	
U+7B7E	kTraditionalVariant	U+7C3D	U+7C64	
U+7EA4	kTraditionalVariant	U+7E34	U+7E96	
U+7EBF	kTraditionalVariant	U+7DAB	U+7DDA	
U+7EDD	kTraditionalVariant	U+7D55	U+7D76	
U+7EE3	kTraditionalVariant	U+7D89	U+7E61	
U+7EF7	kTraditionalVariant	U+7DB3	U+7E43	
U+7EFF	kTraditionalVariant	U+7DA0	U+7DD1	
U+7F0A	kTraditionalVariant	U+7DFC	U+7E15	
U+82CF	kTraditionalVariant	U+56CC	U+82CF	U+8607
U+836F	kTraditionalVariant	U+846F	U+85E5	
U+83BC	kTraditionalVariant	U+8493	U+84F4	
U+8574	kTraditionalVariant	U+85F4	U+860A	
U+8BF4	kTraditionalVariant	U+8AAA	U+8AAC	
U+8C23	kTraditionalVariant	U+8B20	U+8B21	
U+8D43	kTraditionalVariant	U+8D13	U+8D1C	
U+8D4D	kTraditionalVariant	U+8CEB	U+9F4E	
U+8F92	kTraditionalVariant	U+8F3C	U+8F40	
U+915D	kTraditionalVariant	U+9196	U+919E	
U+91CC	kTraditionalVariant	U+88CF	U+88E1	U+91CC
U+94B5	kTraditionalVariant	U+7F3D	U+9262	
U+9510	kTraditionalVariant	U+92B3	U+92ED	
U+954B	kTraditionalVariant	U+93B2	U+9482	
U+954C	kTraditionalVariant	U+93B8	U+942B	
U+9605	kTraditionalVariant	U+95B1	U+95B2	
U+9893	kTraditionalVariant	U+9839	U+983D	
U+989C	kTraditionalVariant	U+984F	U+9854	
U+9965	kTraditionalVariant	U+98E2	U+9951	
U+9A82	kTraditionalVariant	U+7F75	U+99E1	
U+9C9E	kTraditionalVariant	U+9B9D	U+9BD7	
U+9E21	kTraditionalVariant	U+96DE	U+9DC4	

18) L2/22-226: Five consolidated public feedback items L2/22-255: Response to Feedback Regarding kSimplifiedVariant/ kTraditionalVariant Values

Comments: The group discussed this proposal, which is a consolidation of five separate public feedback items from the same submitter.

The first public feedback item that spans pp 1 through 36 [Mon Sep 5 14:37:13 CDT 2022] provides suggested *kTotalStrokes* property value changes, and the group recommends that no action be taken for two reasons. First, when the suggested property value changes were spot-checked, it was determined that they did not adhere to current IRG conventions. Second, the more comprehensive overhaul of the *kTotalStrokes* as proposed in L2/22-201, which is covered in Section 22 of this document, should be the preferred way to address this systemic issue.

The second public feedback item that spans pp 36 through 38 [Mon Sep 5 14:43:15 CDT 2022] provides suggested *kSimplifiedVariant* and *kTraditionalVariant* property value additions, all of which were determined to already be included in Unicode Version 15.0 or were already suggested in L2/22-192 that was covered in Section 17 of this document, so no action is necessary.

The third public feedback item that spans pp 38 and 39 [Mon Sep 5 14:52:57 CDT 2022] provides suggested *kSimplifiedVariant* and *kTraditionalVariant* property value removals, additions, and changes, some of which were determined to be appropriate. These are shown after the **Recommendations**.

The fourth public feedback item that spans pp 39 and 40 [Mon Sep 5 14:54:53 CDT 2022] provides suggested *kSimplifiedVariant* and *kTraditionalVariant* property value removals, which the group determined should be kept, so no action is necessary.

The fifth public feedback item on page 41 [Sun Sep 11 06:03:05 CDT 2022] provides suggested *kSimplifiedVariant* and *kTraditionalVariant* property value additions, along with a suggestion to change two *kZVariant* property value assignments to become *kSemanticVariant*. The group determined that the latter suggestion was not appropriate, and that all of the *kSimplifiedVariant* and *kTraditionalVariant* property value additions were already included in Unicode Version 15.0 or were already suggested in L2/22-192 that was covered in Section 17 of this document, so no action is necessary.

The group recommends that John Jenkins be tasked to update the text of UAX #38 to clarify that some simplified/traditional mappings are informal and do not necessarily agree with formal (aka prescriptive) definitions.

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

Action Item for John Jenkins, CJK: Apply the Unihan database property value removals, additions, and changes, based on documents L2/22-226 and L2/22-255, and as amended in Section 18 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, EDC: Update the text of UAX #38 to clarify that some simplified/traditional mappings are informal and do not necessarily agree with formal (aka prescriptive) definitions, based on Section 18 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for Ken Lunde, CJK: Convey to the feedback submitter the CJK & Unihan Group comments in Section 18 of document L2/22-247. See documents L2/22-226 and L2/22-255.

Removed:

U+6F24	kTraditionalVariant	U+7060
U+31270	kTraditionalVariant	U+9E12

New:

U+9DFF	kSemanticVariant	U+9E0A
U+9E0A	kSemanticVariant	U+9DFF

Current:

U+4D19	kTraditionalVariant	U+9DFF	U+9E0A
U+7060	kSimplifiedVariant	U+6F24	U+30710
U+817C	kTraditionalVariant	U+817C	U+9766
U+9766	kSimplifiedVariant	U+4A44	U+817C
U+9DFF	kSimplifiedVariant	U+4D19	U+2CE2F
U+9E12	kSimplifiedVariant	U+31270	U+312AD

Adjusted:

U+4D19	kTraditionalVariant	U+9E0A
U+7060	kSimplifiedVariant	U+30710
U+817C	kTraditionalVariant	U+817C
U+9766	kSimplifiedVariant	U+4A44
U+9DFF	kSimplifiedVariant	U+2CE2F
U+9E12	kSimplifiedVariant	U+312AD

19) L2/22-182: New kFourCornerCode values for 660 ideographs

Comments: The group reviewed this proposal, which includes 660 *kFourCornerCode* property value additions that will provide complete coverage for China's TGH 2013 (通用规范汉字表) standard that includes 8,105 ideographs. In addition to welcoming these property value additions, the group recommends that John Jenkins be tasked to update the Description of this provisional property to indicate its modern uses, and to better describe its fifth digit, which is the one after the period, and which represents the stroke immediately above the lower-right stroke.

Recommendations: The group recommends to the UTC the following disposition ⇨

Action Item for John Jenkins, CJK: Apply the *kFourCornerCode* property value additions to the Unihan database, based on document L2/22-182 and Section 19 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, EDC: Update the Description of the *kFourCornerCode* property in UAX #38 to indicate the modern uses of this property and to better describe the fifth digit in the property value, based on document L2/22-182 and Section 19 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for Ken Lunde, CJK: Convey to the feedback submitter the CJK & Unihan Group comments in Section 19 of document L2/22-247. See document L2/22-182.

20) L2/22-184: Updates for Unihan kXHC1983 data

Comments: The group reviewed this proposal, which includes suggested removals (195), additions (249), and changes (142) for the provisional *kXHC1983* property, and the group deemed them to be appropriate. The group also recommends that John Jenkins be tasked to review the Description of this property in UAX #38, and to update it as appropriate.

Recommendations: The group recommends to the UTC the following disposition ⇨

Action Item for John Jenkins, CJK: Apply the kXHC1983 property value removals, additions, and changes to the Unihan database, based on document L2/22-184 and Section 20 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, EDC: Review the Description of the kXHC1983 property in UAX #38 and update it as appropriate, based on document L2/22-184 and Section 20 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for Ken Lunde, CJK: Convey to the feedback submitter the CJK & Unihan Group comments in Section 20 of document L2/22-247. See document L2/22-184.

21) L2/22-203: SUGGESTION FOR UNIHAN

Comments: The group discussed this proposal, which is a public feedback item that is manifested as a document due to the large data file that was provided, and agreed that proposals to add new Unihan database properties should be submitted as formal documents. Regardless, the group noted several issues that are evident in what could be construed as a preliminary proposal to add a new provisional *kStrokes* property. One issue is that *kStrokeOrder* would be a more accurate property name, because what is being conveyed by such a property is the *order* of the strokes, not a collection of strokes. Another issue is that stroke order can differ by region, which suggests that this property should get similar treatment as *kAlternateTotalStrokes* in that the stroke order property values can be tagged with an IRG source specifier if there are regional stroke order differences.

The UTC should be aware that the primary use cases for such a property include stroke-based input methods that are common on mobile devices, and engines that support hand-writing recognition. In other words, the group agreed that it would be a useful and worthwhile addition to the Unihan database, but the issues mentioned above must first be resolved.

One of the group members noted that a property that specifies the first residual stroke, which is required for all IRG working set submissions, would also be useful.

Recommendations: The group recommends to the UTC the following disposition ⇨

Action Item for Ken Lunde, CJK: Convey to the feedback submitter the CJK & Unihan Group comments in Section 21 of document L2/22-247. See document L2/22-203.

22) L2/22-201: Proposal to correct inconsistent total strokes data in the Unihan database [IRG N2574]

Comments: This document is intended for the IRG, so the UTC does not need to take any action at this time. The IRG's ORT (*Online Review Tool*) Manager agreed that it is possible to leverage parts of the ORT code to generate predictable stroke count data based on accurate IDS and radical data as input, which will be explored in the near future.

Recommendations: The group recommends to the UTC the following disposition ⇨

No UTC action is required.

23) L2/22-257: An item WG2 N5194 requests a feedback from IRG [IRG N2583]

Comments: The IRG has determined that U+31F68 is unifiable with U+26C25, and therefore recommends changing its *kIRG_GSource* property value from GXM-00175 to GU-31F68 to indicate that it is an orphaned ideograph. The group recommends that the UTC accept this *kIRG_GSource* property value change.

Recommendations: The group recommends to the UTC the following disposition ⇨

Consensus: Accept the proposal to change the *kIRG_GSource* property value of U+31F68 from GXM-00175 to GU-31F68, based on document L2/22-257 and Section 23 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for Michel Suignard, CJK: Change the *kIRG_GSource* property value of U+31F68 from GXM-00175 to GU-31F68, based on document L2/22-257 and Section 23 of document L2/22-247, and provide to John Jenkins an updated Unihan data file, for the next version of the Unicode Standard.

Action Item for John Jenkins, CJK: Update the Unihan database to change the *kIRG_GSource* property value of U+31F68 from GXM-00175 to GU-31F68, based on document L2/22-257 and Section 23 of document L2/22-247, for the next version of the Unicode Standard.

Current:

U+31F68	<i>kIRG_GSource</i>	GXM-00175
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Adjusted:

U+31F68	<i>kIRG_GSource</i>	GU-31F68
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24) L2/22-256: T-Source Glyph Correction and Horizontal Extension [IRG N2580R]

Comments: The IRG recommends accepting the representative glyph change request for 21 T-Source ideographs and a four-ideograph horizontal extension (one ideograph in each the URO, Extension B, Extension E, and Extension H), proposed by TCA in IRG N2580R (aka L2/22-256). TCA has been tasked to provide to WG2 the attribute data and updated representative glyphs by 2022-10-31. The group recommends that the UTC accept these 21 T-Source representative glyph changes and four-ideograph horizontal extension.

Recommendations: The group recommends to the UTC the following disposition ⇨

Consensus: Accept the proposal to change the representative glyphs of 21 T-Source ideographs and a four-ideograph horizontal extension, based on document L2/22-256 and Section 24 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for Michel Suignard, CJK: Add the four new kIRG_TSource property values, based on document L2/22-256 and Section 24 of document L2/22-247, and provide to John Jenkins an updated Unihan data file, for the next version of the Unicode Standard.

Action Item for John Jenkins, CJK: Update the Unihan database to add the four new kIRG_TSource property values, based on document L2/22-256 and Section 24 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for Michel Suignard, CJK: Apply the 21 T-Source representative glyph changes to the code chart for the CJK Unified Ideographs (aka URO) block with an updated font provided by TCA, based on document L2/22-256 and Section 24 of document L2/22-247, for the next version of the Unicode Standard.

New:

U+7934	kIRG_TSource	T2-7245
U+2486F	kIRG_TSource	TA-6054
U+2C816	kIRG_TSource	TB-7338
U+31C7F	kIRG_TSource	TB-723F

25) L2/22-258: Changing glyphs and IDs of 97 KR Hanja chars containing ‘𐑖 (U+53F1)’ [IRG N2549 ROK Response]

Comments: After Eiso Chan raised an issue, experts in ROK researched a common component in Korean-made ideographs, and determined that the representative glyphs should reflect 𐑖, not 𐑗, as the component. This issue affects the representative glyphs of 66 K-Source ideographs in the URO (13), Extension A (20), Extension C (3), Extension F (11), Extension G (16), and Extension H (3) blocks. ROK has been tasked to provide to WG2 the updated representative glyphs by 2022-12-10. The group recommends that the UTC accept these 66 K-Source representative glyph changes.

Recommendations: The group recommends to the UTC the following disposition ⇨

Consensus: Accept the proposal to change the representative glyphs of 66 K-Source ideographs, based on document L2/22-258 and Section 25 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for Michel Suignard, CJK: Apply the 66 K-Source representative glyph changes to the code charts for the CJK Unified Ideographs (aka URO), Extension A, Extension C, Extension F, Extension G, and Extension H blocks with an updated font provided by ROK, based on document L2/22-258 and Section 25 of document L2/22-247, for the next version of the Unicode Standard.

26) L2/22-259: V-Source Glyph and Codes Updates (Revised) [IRG N2556R2]

Comments: The IRG recommends accepting the representative glyph change request for 33 V-Source ideographs (affecting the URO, Extension B, Extension C, and Extension E blocks), the *kIRG_VSource*, *kRSUnicode*, and *kTotalStrokes* property value changes, and the six-ideograph horizontal extension (two ideographs in the URO, three ideographs in Extension B, and one ideograph in Extension E), proposed by Vietnam in IRG N2556R2 (aka L2/22-259). Vietnam has been tasked to provide to WG2 the attribute data and updated representative glyphs by 2022-10-31. The group recommends that the UTC accept these 33 V-Source representative glyph changes, property value changes, and six-ideograph horizontal extension.

Recommendations: The group recommends to the UTC the following disposition ⇨

Consensus: Accept the proposal to change the representative glyphs of 33 V-Source ideographs, change the two *kIRG_VSource* property values, change the seven *kRSUnicode* property values, change the five *kTotalStrokes* property values, and the six-ideograph horizontal extension, based on document L2/22-259 and Section 26 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for Michel Suignard, CJK: Change the two *kIRG_VSource* property values, change the seven *kRSUnicode* property values, change the five *kTotalStrokes* property values, and add the six new *kIRG_VSource* property values, based on document L2/22-259 and Section 26 of document L2/22-247, and provide to John Jenkins an updated Unihan data file, for the next version of the Unicode Standard.

Action Item for John Jenkins, CJK: Update the Unihan database to change the two *kIRG_VSource* property values, change the seven *kRSUnicode* property values, change the five *kTotalStrokes* property values, and add the six new *kIRG_VSource* property values, based on document L2/22-259 and Section 26 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for Michel Suignard, CJK: Apply the 33 V-Source representative glyph changes to the code charts for the CJK Unified Ideographs (aka URO), Extension B, Extension C, and Extension E blocks with an updated font provided by Vietnam, based on document L2/22-259 and Section 26 of document L2/22-247, for the next version of the Unicode Standard.

New:

U+65B3	<i>kIRG_VSource</i>	VN-065B3
U+6FC2	<i>kIRG_VSource</i>	VN-06FC2
U+20302	<i>kIRG_VSource</i>	V1-4B79
U+2585E	<i>kIRG_VSource</i>	VN-2585E
U+29516	<i>kIRG_VSource</i>	VN-29516
U+2C13A	<i>kIRG_VSource</i>	V2-796F

Current:

U+5098	<i>kIRG_VSource</i>	V1-4B79
U+2087A	<i>kRSUnicode</i>	19.8
U+236EF	<i>kRSUnicode</i>	75.12
U+236EF	<i>kTotalStrokes</i>	16
U+237C3	<i>kIRG_VSource</i>	V2-796F
U+27350	<i>kRSUnicode</i>	142.8

U+2AB63	kRSUnicode	64.4
U+2AB63	kTotalStrokes	7
U+2BC2E	kRSUnicode	38.7
U+2BC2E	kTotalStrokes	9
U+2C04C	kRSUnicode	72.10
U+2C04C	kTotalStrokes	14
U+2C43E	kRSUnicode	108.16
U+2C43E	kTotalStrokes	21

Adjusted:

U+5098	kIRG_VSource	VN-05098
U+2087A	kRSUnicode	19.7
U+236EF	kRSUnicode	75.11
U+236EF	kTotalStrokes	15
U+237C3	kIRG_VSource	VN-F20C2
U+27350	kRSUnicode	142.10
U+2AB63	kRSUnicode	64.5
U+2AB63	kTotalStrokes	8
U+2BC2E	kRSUnicode	38.8
U+2BC2E	kTotalStrokes	10
U+2C04C	kRSUnicode	72.11
U+2C04C	kTotalStrokes	15
U+2C43E	kRSUnicode	108.15
U+2C43E	kTotalStrokes	20

UAX #45 / U-Source Documents

The documents in this section were discussed by the group, and for convenience, the following data file, which is a PDF attachment, includes all of the recommended UAX #45 *USourceData.txt* data file additions based on them:

- *USource-additions-20221021.txt*

These recommended UAX #45 *USourceData.txt* data file additions are also shown inline, following the **Recommendations**. In addition, the *UTCHan2022u173-Regular.ttf* TrueType font (PDF attachment) includes the representative glyphs for adding to the UAX #45 *UTCHan.ttf* TrueType font.

27) L2/22-185: Proposed Changes to UAX #45 Status Values

Comments: The group reviewed this proposal for changing the UAX #45 **N** (*Planned to be submitted for a future extension*), **V** (*Variant of an encoded character*), **W** (*Not suitable for encoding as a CJK Unified Ideograph*), and **X** (*No action taken*) status values to **FutureWS**, **Variant**, **Rejected**, and **NoAction**, respectively. The group agreed that these are suitable changes, and are in line with changes that were made to other UAX #45 status values for Unicode Version 15.0. These changes need to be reflected in UAX #45 proper, specifically in the table in Section 2.1, *The Status Field*, and in the header of the UAX #45 *USourceData.txt* data file. A new PRI will need to be issued.

Recommendations: The group recommends to the UTC the following disposition ⇨

Consensus: Accept the change of the UAX #45 status values N, V, W, and X to FutureWS, Variant, Rejected, and NoAction, respectively, based on document L2/22-185 and Section 27 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, EDC: Change the UAX #45 status values N, V, W, and X to FutureWS, Variant, Rejected, and NoAction, respectively, in UAX #45 and in the header of the UAX #45 USourceData.txt data file, based on document L2/22-185 and Section 27 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, CJK: Change the UAX #45 status values N, V, W, and X to FutureWS, Variant, Rejected, and NoAction, respectively, in the corresponding records of the UAX #45 USourceData.txt data file, based on document L2/22-185 and Section 27 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for Rick McGowan, UTC: Post the PRI for the proposed update of UAX #45, to close 2023-01-03.

28) L2/22-206: Proposal to add 38 characters used for the Chinese traditional musical notation to UAX #45

Comments: The group reviewed this proposal, and agreed that adding 38 new ideographs to UAX #45 with a status value of N is reasonable. The 38 ideographs, whose representative glyphs are shown below, can therefore be considered as candidates for inclusion in the UTC's submission for the next IRG working set:

豐仇汙汙泗猷望喃娑娑庠彳彳社
彳彳彳彳彳彳彳彳彳彳彳彳彳彳彳
彳彳彳彳彳彳彳彳彳彳彳彳彳彳彳

Recommendations: The group recommends to the UTC the following disposition ⇨

Consensus: Accept 38 new U-Source ideographs as **UTC-03298** through **UTC-03335** with a UAX #45 status value of **N**, based on document L2/22-206 and Section 28 of document L2/22-247, for the next version of the Unicode Standard.

Action Item for John Jenkins, CJK: Add 38 new records to the UAX #45 USourceData.txt data file and their representative glyphs to USourceGlyphs.pdf, based on document L2/22-206 and as amended in Section 28 of document L2/22-247, for the next version of the Unicode Standard.

New:

- UTC-03298;N;;2.12;;[𠂇]中人庠;UTCDoc L2/22-206 1;;13;2
- UTC-03299;N;;9.3;;[𠂈]彳九;UTCDoc L2/22-206 2;;5;3
- UTC-03300;N;;15.3;;[𠂉]彳上;UTCDoc L2/22-206 3;;5;2

UTC-03301;N;;15.4;;𠄎五;UTCDoc L2/22-206 4;;6;1
 UTC-03302;N;;15.4;;𠄎六;UTCDoc L2/22-206 5;;6;4
 UTC-03303;N;;15.5;;𠄎四;UTCDoc L2/22-206 6;;7;2
 UTC-03304;N;;24.11;;𠄎南太;UTCDoc L2/22-206 7;;13;2
 UTC-03305;N;;26.6;;𠄎[P5-02]五;UTCDoc L2/22-206 8;;8;3
 UTC-03306;N;;30.11;;𠄎古南;UTCDoc L2/22-206 9;;4;1
 UTC-03307;N;;38.6;;𠄎一𠄎安;UTCDoc L2/22-206 10;;9;1
 UTC-03308;N;;38.6;;𠄎瓜安;UTCDoc L2/22-206 11;;9;3
 UTC-03309;N;;53.4;;𠄎广五;UTCDoc L2/22-206 12;;7;1
 UTC-03310;N;;59.2;;𠄎𠄎𠄎𠄎一;UTCDoc L2/22-206 13;;5;2
 UTC-03311;N;;59.2;;𠄎𠄎𠄎𠄎乙;UTCDoc L2/22-206 14;;5;2
 UTC-03312;N;;59.4;;𠄎𠄎𠄎𠄎上;UTCDoc L2/22-206 15;;7;2
 UTC-03313;N;;59.4;;𠄎𠄎𠄎𠄎工;UTCDoc L2/22-206 16;;7;2
 UTC-03314;N;;59.4;;𠄎𠄎𠄎𠄎九;UTCDoc L2/22-206 17;;7;2
 UTC-03315;N;;59.4;;𠄎𠄎𠄎𠄎凡;UTCDoc L2/22-206 18;;7;2
 UTC-03316;N;;59.5;;𠄎𠄎𠄎𠄎尺;UTCDoc L2/22-206 19;;8;2
 UTC-03317;N;;59.5;;𠄎𠄎𠄎𠄎六;UTCDoc L2/22-206 20;;8;2
 UTC-03318;N;;59.5;;𠄎𠄎𠄎𠄎五;UTCDoc L2/22-206 21;;8;2
 UTC-03319;N;;60.1;;𠄎𠄎一;UTCDoc L2/22-206 22;;4;1
 UTC-03320;N;;60.3;;𠄎𠄎九;UTCDoc L2/22-206 23;;6;3
 UTC-03321;N;;60.5;;𠄎𠄎四;UTCDoc L2/22-206 24;;8;2
 UTC-03322;N;;63.1;;𠄎𠄎一;UTCDoc L2/22-206 25;;5;1
 UTC-03323;N;;63.3;;𠄎𠄎三;UTCDoc L2/22-206 26;;7;1
 UTC-03324;N;;63.4;;𠄎𠄎五;UTCDoc L2/22-206 27;;8;1
 UTC-03325;N;;63.4;;𠄎𠄎𠄎𠄎一;UTCDoc L2/22-206 28;;8;5
 UTC-03326;N;;63.5;;𠄎𠄎𠄎一𠄎一;UTCDoc L2/22-206 29;;9;1
 UTC-03327;N;;63.5;;𠄎𠄎四;UTCDoc L2/22-206 30;;9;2
 UTC-03328;N;;63.5;;𠄎𠄎𠄎一;UTCDoc L2/22-206 31;;9;3
 UTC-03329;N;;63.5;;𠄎𠄎氏;UTCDoc L2/22-206 32;;9;3
 UTC-03330;N;;63.7;;𠄎𠄎𠄎人右;UTCDoc L2/22-206 33;;11;3
 UTC-03331;N;;64.4;;𠄎𠄎才六;UTCDoc L2/22-206 34;;7;4
 UTC-03332;N;;75.4;;𠄎𠄎木太;UTCDoc L2/22-206 35;;8;1
 UTC-03333;N;;85.3;;𠄎𠄎士;UTCDoc L2/22-206 36;;6;1
 UTC-03334;N;;85.4;;𠄎𠄎五;UTCDoc L2/22-206 37;;7;1
 UTC-03335;N;;85.4;;𠄎𠄎六;UTCDoc L2/22-206 38;;7;4

Other Documents






29) L2/22-191: Proposal to encode five new Ideographic Description Characters [IRG N2572]

L2/22-227: SAT Feedback to “Preliminary proposal to add a new provisional KIDS property (Unihan)” (IRGN2492) and “Proposal to encode five new Ideographic Description Characters” (IRGN2572)

L2/22-228: Feedback on IRGN2572 “Proposal to encode 5 new ideograph description characters”

Comments: The group reviewed this proposal, which was originally presented to the UTC as L2/21-118R, and recommends that the UTC accept the five new Ideographic Description Characters (IDCs) for the next version of the Unicode Standard. There are two main differences in the current proposal, both of which are the result of UTC feedback. First, the IDC named IDEOGRAPHIC DESCRIPTION CHARACTER **ONE HUNDRED EIGHTY DEGREE** ROTATION was

renamed as IDEOGRAPHIC DESCRIPTION CHARACTER **HALF-TURN** ROTATION. Second, the proposed code point for the fifth IDC, U+31EF, is at the very end of the [CJK Strokes](#) block. The only changes that the group recommend are to remove the word **COMPONENT** from the IDC named IDEOGRAPHIC DESCRIPTION CHARACTER **COMPONENT** SUBTRACTION to make its name as general as possible, and to remove **HALF-TURN** from the IDC named IDEOGRAPHIC DESCRIPTION CHARACTER **HALF-TURN** ROTATION. The following table provides a synopsis of the five proposed new IDCs:

IDC	Type	Code Point	Character Name
	Binary	U+2FFC	IDEOGRAPHIC DESCRIPTION CHARACTER SURROUND FROM RIGHT
	Binary	U+2FFD	IDEOGRAPHIC DESCRIPTION CHARACTER SURROUND FROM LOWER RIGHT
	Unary	U+2FFE	IDEOGRAPHIC DESCRIPTION CHARACTER HORIZONTAL REFLECTION
	Unary	U+2FFF	IDEOGRAPHIC DESCRIPTION CHARACTER ROTATION
	Binary	U+31EF	IDEOGRAPHIC DESCRIPTION CHARACTER SUBTRACTION

The IRG reviewed this proposal as IRG N2572 during the IRG #59 meeting, and none of the member bodies objected to the encoding of these five IDCs.

The group also discussed the documentation of the five new IDCs, such as updating the IDS grammar in Section 18.2, *Ideographic Description Characters*, of the Core Specification, and agreed that it can be deferred until Unicode Version 16.0, because those who need to use these new IDCs already know how to use them. However, the new character property, *IDS_Unary_Operator*, needs to be documented in UAX #44, and in the UCD’s *PropList.txt* and *PropertyAliases.txt* data files, as specified in the “New Character Property” section that spans pp 3 and 4 of the proposal. A new PRI will need to be issued.

In terms of the representative glyphs for the code charts, the proposal includes an *IDC-Regular.ttf* TrueType font that includes representative glyphs for the five new IDCs, along with improved representative glyphs for the 12 existing IDCs. The 17 representative glyphs are shown below, with the representative glyphs for the five new ones highlighted in red:



Lastly, SAT’s feedback in L2/22-227 proposes that the *IDS_Tertiary_Operator* property be renamed to *IDS_Ternary_Operator*, but that it is a moot point as the *IDS_Tertiary_Operator* property already exists and cannot be renamed.

Recommendations: The group recommends to the UTC the following disposition ⇨

Consensus: UTC accepts the following five characters, with names, glyphs, and properties as provided in L2/22-191 and as amended in Section 29 of document L2/22-247, for the next version of the Unicode Standard:

U+2FFC IDEOGRAPHIC DESCRIPTION CHARACTER SURROUND FROM RIGHT
U+2FFD IDEOGRAPHIC DESCRIPTION CHARACTER SURROUND FROM LOWER RIGHT
U+2FFE IDEOGRAPHIC DESCRIPTION CHARACTER HORIZONTAL REFLECTION
U+2FFF IDEOGRAPHIC DESCRIPTION CHARACTER ROTATION
U+31EF IDEOGRAPHIC DESCRIPTION CHARACTER SUBTRACTION

Action Item for Ken Whistler, EDC: Update the Pipeline to add the following five characters:

U+2FFC IDEOGRAPHIC DESCRIPTION CHARACTER SURROUND FROM RIGHT
U+2FFD IDEOGRAPHIC DESCRIPTION CHARACTER SURROUND FROM LOWER RIGHT
U+2FFE IDEOGRAPHIC DESCRIPTION CHARACTER HORIZONTAL REFLECTION
U+2FFF IDEOGRAPHIC DESCRIPTION CHARACTER ROTATION
U+31EF IDEOGRAPHIC DESCRIPTION CHARACTER SUBTRACTION

Action Item for Ken Whistler, EDC: Update UAX #44 to reflect the new IDS_Unary_Operator property, based on document L2/22-191 and Section 29 of document L2/22-247.

Action Item for Markus Scherer, PAG: Update the UCD's PropList.txt and PropertyAliases.txt data files to reflect the new IDS_Unary_Operator property, based on document L2/22-191 and Section 29 of document L2/22-247.

Action Item for Rick McGowan, UTC: Post the PRI for the proposed update of UAX #44, to close 2023-01-03.

30) L2/22-183: Introduction to encode Yi Ideographs

Comments: The group discussed this proposal, which is an attempt to resurrect a much earlier proposal to encode Yi ideographs. The group agreed that the size of the repertoire is unclear, potentially very large (greater than a single plane), and therefore a lot more work needs to be done before it could be meaningfully considered. One possible path forward would be to form a special working group that includes appropriate—and interested—experts who can develop and review the repertoire.

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

No UTC action is required.

31) L2/22-189: Proposal to streamline U+96B9 隹 as a component in V-Source representative glyphs

Comments: This document is intended for Vietnam, and is therefore an FYI document for the UTC. Vietnam has no plans to take any action at this time.

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

No UTC action is required.

32) L2/22-205: Reply L2/22-115 Annotations for CJK strokes used as Hangul strokes

Comments: This feedback for L2/22-115, which was solicited from China and which completes UTC Action Item 172-A48, makes it clear that the proposed code chart annotations are not appropriate. This issue is therefore resolved for now.

Recommendations: The group recommends to the UTC the following disposition ⇨

No UTC action is required.

33) L2/22-224: Proposal to add back U+2E9A

Comments: The group discussed this proposal, which is to assign a character to code point U+2E9A which is the only “hole” in the [CJK Radicals Supplement](#) block. The proposed character is what was originally to be encoded at that particular code point. It is important to note that the characters in this particular block have been encoded since Unicode Version 3.0 (1999), and that the “hole” at code point U+2E9A has not been problematic. The group is not in favor of filling this hole simply for the sake of filling holes in blocks. For the record, only the following 12 blocks have a requirement that there be no holes (ignoring the Surrogates and PUA blocks that have the same requirement):

CJK Unified Ideographs
CJK Unified Ideographs Extension A
CJK Unified Ideographs Extension B
CJK Unified Ideographs Extension C
CJK Unified Ideographs Extension D
CJK Unified Ideographs Extension E
CJK Unified Ideographs Extension F
CJK Unified Ideographs Extension G
CJK Unified Ideographs Extension H
Hangul Syllables
Tangut
Tangut Supplement

The proposal simply does not provide a strong argument to fill this hole. Also, there are additional radical variants that could potentially be added to this block, which has 12 unassigned code points at its end, so it seems odd to treat this particular one as a one-off addition. With regard to the suggestion to add an annotation to U+2E9A (U+2F46), this is the approach that the group recommends, and which would require the following addition for U+2E9A in the UCD’s *NamesList.txt* data file:

```
2E9A      <reserved>  
          x (2F46)
```

Recommendations: The group recommends to the UTC the following disposition ⇨

Action Item for Ken Whistler, EDC: Add a new entry for U+2E9A to *NamesList.txt*, based on document L2/22-205 and Section 33 of document L2/22-247.

34) L2/22-237: Request to Update Glyph for U+31D5A [IRG N2577]

Comments: This proposal identifies a potentially incorrect T-Source representative glyph in Extension H, and TCA has been tasked by the IRG to confirm before the IRG #60 meeting (2023-03-20 through 2023-03-24) whether it needs to be changed.

Recommendations: The group recommends to the UTC the following disposition ⇨

No UTC action is required.

35) L2/22-238: Proposal to consider adding CodeCharts support for kIRG_KPSource representative glyphs

Comments: The group agrees that this will be an excellent addition to the code charts for the URO, Extension A, and Extension B blocks. According to the proposal, the only CJK Unified Ideograph that has a *kIRG_KPSource* property value but does not include a representative glyph in the font is U+249D6 環. For that particular ideograph, the G-Source representative glyph could be repurposed.

Recommendations: The group recommends to the UTC the following disposition ⇨

Action Item for Michel Suignard, CJK: Add the remaining kIRG_KPSource representative glyphs to the code charts for the CJK Unified Ideographs (aka URO), Extension A, and Extension B blocks, based on document L2/22-238 and as amended in Section 35 of document L2/22-247, for the next version of the Unicode Standard.

IRG Documents

36) L2/22-202: US/Unicode Activity Report for IRG #59 [IRG N2567]

Comments: This document is the UTC's activity report as delivered during the IRG #59 meeting in October of 2022, and is therefore an FYI document for the UTC.

Recommendations: The group recommends to the UTC the following disposition ⇨

No UTC action is required.

37) L2/22-253: IRG Meeting #59 Recommendations and Action Items [IRG N2570]

Comments: While this is mainly an FYI document for the UTC, because all of the necessary actions have been specified under documents that are referenced elsewhere in this document, it is important to point out the future IRG meeting schedule and the IRG Working Set 2021 review schedule, both of which impact UTC experts.

The next IRG meeting, IRG #60 (**2023-03-20 through 2023-03-24**), will be virtual and hosted via Zoom courtesy of the Unicode Consortium. If face-to-face meetings become possible, IRG #61 (**2023-10-16 through 2023-10-20**) will be hosted by Yale University (New Haven, Connecticut, USA), otherwise it will be virtual and hosted via Zoom courtesy of the Unicode Consortium. IRG #62 (**2024-03-18 through 2024-03-22**), will be virtual and hosted via Zoom courtesy of the Unicode Consortium.

In terms of the IRG Working Set 2021 review schedule, the UTC does not need to submit any revised representative glyphs for its submission, and IRG Working Set 2021 Version 4.0 is scheduled to be available by **2022-12-23**, with **2023-02-10** being the deadline to submit comments via the [Online Review Tool](#) (ORT). The review assignments have not yet been announced by the IRG Chief Editor. The ORT Manager is scheduled to release Consolidated Comments by **2023-02-24**, with responses from submitters due by **2023-03-16**.

Recommendations: The group recommends to the UTC the following disposition ⇨

Action Item for the Editorial Committee: Update the “Calendar of Future Meetings and Events” page to reflect the dates and locations for the three future IRG meetings, IRG #60 through IRG #62, based on Section 37 of document L2/22-247.

38) L2/22-254: Editorial Report on Miscellaneous Issues [IRG N2571]

Comments: This is an FYI document for the UTC, because all of the necessary actions have been specified under documents that are referenced elsewhere in this document.

Recommendations: The group recommends to the UTC the following disposition ⇨

No UTC action is required.

That is all.