Project Name: Gobo Time
Project ID: 71

Manual inspector:

Legend:

- A: Added
- R: Removed
- C: Changed
- S: Strengthened
- W: Weakened
- $S_{ne}$: non-empty Strengthened
- $W_{ne}$: non-empty Weakened
1 Revision "Old": 894 vs. Revision "New": 905

1.1 Class: DT_DATE_TIME_DURATION

Routine: to_time_canonical - Precondition changed

Tags: Removed Changed Weakened

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"Old" Precondition

is_definite

"New” Precondition

Routine: to_time_canonical - Postcondition changed

Tags: Changed Weakened NEWeaken

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"Old” Postcondition

Result /= Void
Result.is_definite
Result.time_duration.is_canonical
Result.is_equal (Current)

"New” Postcondition

Result.year = year
Result.month = month
1.2 Class: DT_TIME_DURATION

Routine: toCanonical - Postcondition changed

Tags: Changed Weakened NEWeaker

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"Old" Postcondition

Result /= Void
Result.isCanonical
Result.sameTimeDuration (Current)

"New" Postcondition

Result /= Void
Result.isEqual (Current)

2 Revision "Old": 1011 vs. Revision "New": 1256

2.1 Class: DT_DATE_TIME_DURATION

Routine: sameDateTimeDuration - Precondition changed

Tags: Added Changed Strengthened

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"Old" Precondition

"New" Precondition

other /= Void
3 Revision "Old": 1256 vs. Revision "New": 1257

3.1 Class: DT_TIME

Routine: second - Postcondition changed

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"Old" Postcondition

\[
\text{second} \geq 0 \\
\text{second} < \text{seconds}\_in\_minute
\]

"New" Postcondition

\[
\text{Result} \geq 0 \\
\text{Result} < \text{seconds}\_in\_minute
\]

Routine: minute - Postcondition changed

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"Old" Postcondition

\[
\text{minute} \geq 0 \\
\text{minute} < \text{minutes}\_in\_hour
\]

"New" Postcondition

\[
\text{Result} \geq 0 \\
\text{Result} < \text{minutes}\_in\_hour
\]
Routine: millisecond - Postcondition changed

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"Old" Postcondition

\[\text{millisecond} \geq 0\]
\[\text{millisecond} < 1000\]

"New" Postcondition

\[\text{Result} \geq 0\]
\[\text{Result} < 1000\]

Routine: hour - Postcondition changed

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"Old" Postcondition

\[\text{hour} \geq 0\]
\[\text{hour} < \text{hours in day}\]

"New" Postcondition

\[\text{Result} \geq 0\]
\[\text{Result} < \text{hours in day}\]
4 Revision "Old": 2546 vs. Revision "New": 3006

4.1 Class: DT_DATE

Routine: date_duration - Postcondition changed

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"Old" Postcondition

\[ Result \neq \text{Void} \]
\[ \text{Result}.is_{\text{definite}} \]
\[ (\text{other} \& \& \text{Result}).is_{\text{equal}}(\text{Current}) \]

"New" Postcondition

\[ Result \neq \text{Void} \]
\[ \text{Result}.is_{\text{definite}} \]
\[ (\text{other} \& \& \text{Result}).is_{\text{equal}}(\text{Current}) \]

5 Revision "Old": 3006 vs. Revision "New": 3007

5.1 Class: DT_TIME

Routine: time_duration - Postcondition changed

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"Old" Postcondition

\[ Result \neq \text{Void} \]
\[ (\text{other} \& \& \text{Result}).is_{\text{equal}}(\text{Current}) \]

"New" Postcondition

\[ Result \neq \text{Void} \]
6 Revision "Old": 3007 vs. Revision "New": 3026

6.1 Class: DT_DATE

Routine: date_duration - Postcondition changed

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"Old" Postcondition

\[
\text{Result} \neq \text{Void} \\
\text{Result}.is\_definite \\
(\text{other \&\&} \text{Result}).is\_equal (Current)
\]

"New" Postcondition

\[
\text{Result} \neq \text{Void} \\
\text{Result}.is\_definite \\
(\text{other \&\&} \text{Result}).is\_equal (Current)
\]

6.2 Class: DT_TIME

Routine: time_duration - Postcondition changed

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"Old" Postcondition

\[
(\text{other \&\&} \text{Result}).is\_equal (Current)
\]
"New" Postcondition

\[
\text{Result} \neq \text{Void} \\
(\text{other} \&\| \text{Result}.\text{is}._{\text{equal}}(\text{Current}))
\]

7 Revision "Old": 3164 vs. Revision "New": 3408

7.1 Class: DT_DATE_TIME_DURATION

Routine: same_date_time_duration - Postcondition changed

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"Old" Postcondition

\[
\text{Result} = (((\text{day} \times \text{milliseconds}._{\text{in}}._{\text{day}} + \text{milliseconds}._{\text{count}}) = (\text{other}.\text{day} \times \text{milliseconds}._{\text{in}}._{\text{day}} + \text{other}.\text{milliseconds}._{\text{count}}) \text{ and } ((\text{year} \times \text{months}._{\text{in}}._{\text{year}} + \text{month}) = (\text{other}.\text{year} \times \text{months}._{\text{in}}._{\text{year}} + \text{other}.\text{month})))
\]

"New" Postcondition

8 Revision "Old": 4513 vs. Revision "New": 4514

8.1 Class: DT_TIME_ZONE

Invariant changed

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"Old" Invariant

\[
\text{name} \neq \text{Void}
\]
9 Revision “Old”: 4642 vs. Revision “New”: 4745

9.1 Class: DT.TIME.DURATION
Routine: second_count - Postcondition changed

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"Old" Postcondition

\[
\text{Result} = ((\text{hour} \times \text{minutes}_\text{in}_\text{hour} + \text{minute}) \times \text{seconds}_\text{in}_\text{minute} + \text{second} + \text{millisecond} \div 1000)
\]

"New" Postcondition

\[
\text{Result} = ((\text{hour} \times \text{minutes}_\text{in}_\text{hour} + \text{minute}) \times \text{seconds}_\text{in}_\text{minute} + \text{second} + \text{integer}_\div (\text{millisecond}, 1000))
\]

10 Revision "Old": 4781 vs. Revision "New": 4941

10.1 Class: DT.DATE.DURATION
Routine: set_canonical - Postcondition changed

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"Old" Postcondition

\[ \text{is\_canonical}(a\_date) \]
\[ (a\_date + \text{Current}).\text{is\_equal}(a\_date + \text{old\ clone\ (Current)}) \]

"New" Postcondition

\[ \text{is\_canonical}(a\_date) \]
\[ (a\_date + \text{Current}).\text{is\_equal}(a\_date + \text{old\ cloned\ object}) \]

Routine: set\_definite - Postcondition changed

Tag: Changed

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"Old" Postcondition

\[ \text{is\_definite} \]
\[ (a\_date + \text{Current}).\text{is\_equal}(a\_date + \text{old\ clone\ (Current)}) \]

"New" Postcondition

\[ \text{is\_definite} \]
\[ (a\_date + \text{Current}).\text{is\_equal}(a\_date + \text{old\ cloned\ object}) \]

10.2 Class: DT\_TIME\_DURATION

Routine: set\_canonical - Postcondition changed

Tag: Changed

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"Old" Postcondition

\[ \text{is\_canonical} \]
\[ \text{is\_equal}(\text{old\ clone\ (Current)}) \]
11 Revision "Old": 5217 vs. Revision "New": 5225

11.1 Class: DT_GREGORIANCALENDAR
Routine: week_number - Postcondition changed

Tags: Added Changed Strengthened

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"Old" Postcondition

"New" Postcondition

Result >= 1 and then Result <= 53

12 Revision "Old": 5225 vs. Revision "New": 5226

12.1 Class: DT_GREGORIANCALENDAR
Routine: week_number - Postcondition changed

Tags: Changed Strengthened NEStronger

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"Old" Postcondition

"New" Postcondition

Result >= 1 and then Result <= 53
"New" Postcondition

Result \geq 1
Result \leq 53

13 Revision "Old": 5405 vs. Revision "New": 5805

13.1 Class: DT_DATE_TIME_DURATION

Routine: is_time_canonical - Postcondition changed

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"Old" Postcondition

Result implies (millisecond_count \geq 0 \implies (hour \geq 0 \text{ and } hour < hours_in_day \text{ and } minute \geq 0 \text{ and } minute < minutes_in_hour \text{ and } second \geq 0 \text{ and } second < seconds_in_minute \text{ and } millisecond \geq 0 \text{ and } millisecond < 1000 \text{ and } day \geq 0))

Result implies (millisecond_count \leq 0 \implies (hour \leq 0 \text{ and } hour > - hours_in_day \text{ and } minute \leq 0 \text{ and } minute > - minutes_in_hour \text{ and } second \leq 0 \text{ and } second > - seconds_in_minute \text{ and } millisecond \leq 0 \text{ and } millisecond > -1000 \text{ and } day \leq 0))

"New" Postcondition

Result implies (millisecond_count = 0 \implies (hour = 0 \text{ and } minute = 0 \text{ and } second = 0 \text{ and } millisecond = 0))

Result implies (millisecond_count > 0 \implies (hour \geq 0 \text{ and } hour < hours_in_day \text{ and } minute \geq 0 \text{ and } minute < minutes_in_hour \text{ and } second \geq 0 \text{ and } second < seconds_in_minute \text{ and } millisecond \geq 0 \text{ and } millisecond < 1000 \text{ and } day \geq 0))

Result implies (millisecond_count < 0 \implies (hour \leq 0 \text{ and } hour > - hours_in_day \text{ and } minute \leq 0 \text{ and } minute > - minutes_in_hour \text{ and } second \leq 0 \text{ and } second > - seconds_in_minute \text{ and } millisecond \leq 0 \text{ and } millisecond > -1000 \text{ and } day \leq 0))
14 Revision "Old": 5909 vs. Revision "New": 6084

14.1 Class: DT_DATE

Routine: date_duration - Postcondition changed

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"Old" Postcondition

\[
\text{Result} /\neq \text{Void} \\
\text{Result}.is\_definite \\
(\text{other} \&\@ \text{Result}).is\_equal(\text{Current})
\]

"New" Postcondition

\[
\text{Result} /\neq \text{Void} \\
\text{Result}.is\_definite \\
(\text{other} \&\@ \text{Result}).\text{same\_date}(\text{Current})
\]

14.2 Class: DT_TIME

Routine: time_duration - Postcondition changed

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"Old" Postcondition

\[
\text{Result} /\neq \text{Void} \\
(\text{other} \&\@ \text{Result}).\text{is\_equal}(\text{Current})
\]

"New" Postcondition

\[
\text{Result} /\neq \text{Void} \\
(\text{other} \&\@ \text{Result}).\text{same\_time}(\text{Current})
\]
15 Revision "Old": 6427 vs. Revision "New": 6525

15.1 Class: DT_TIME

Routine: canonical_duration - Postcondition changed

Tags: Changed Strengthened NEStronger

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</table>

"Old" Postcondition

\[ \text{Result} \neq \text{Void} \]
\[ (other + \text{Result}).\text{is_equal}(\text{Current}) \]

"New" Postcondition

\[ \text{Result} \neq \text{Void} \]
\[ \text{Result}.\text{is_canonical} \]
\[ (other + \text{Result}).\text{is_equal}(\text{Current}) \]

15.2 Class: DT_TIME_DURATION

Routine: to_canonical - Postcondition changed

Tags: Changed Strengthened NEStronger

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</table>

"Old" Postcondition

\[ \text{Result} \neq \text{Void} \]
\[ \text{Result}.\text{is_equal}(\text{Current}) \]

"New" Postcondition

\[ \text{Result} \neq \text{Void} \]
\[ \text{Result}.\text{is_canonical} \]
\[ \text{Result}.\text{is_equal}(\text{Current}) \]