Sudoku Players' Forums

Abominable TRIAL-and-ERROR and lovely BRAIDS

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Author	Message

Allan Barker

Joined: 21 Feb 2008
Posts: 504
Location: Bangkok

Posted: Sat Jan 16, 2010 8:57 am   Post subject: quote

> **denis_berthier wrote:**
>
> > **Allan Barker wrote:**
> >
> > > I have the nrczt whip/chain solver that I developed in Red Ed's nrczt algorithms thread. It does not do subsets, it does not do braids. It does have a option switch to allow group-links to be processed as ordinary links. I believe Paul has the same option in his solver.
> >
> > Maybe a matter of vocabulary.
> > Whips with group links? Does it mean you have whip[BI] (i.e. an rlc can be a segment)?

I'm not quite sure of whip[BI]s. (basic interactions?). I just allow multiple rlc and/or multiple llc to link through a single box/line intersection, which forms a group-link. Suspect it is all the same except for terminology.

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denis_berthier

Joined: 19 Jun 2007
Posts: 1173
Location: Paris, France

Posted: Sat Jan 16, 2010 9:12 am   Post subject: quote   edit

> **Allan Barker wrote:**
>
> > I'm not quite sure of whip[BI]s. (basic interactions?). I just allow multiple rlc and/or multiple llc to link through a single box/line intersection, which forms a group-link. Suspect it is all the same except for terminology.

Yes. BI= Basic Interactions.
Same. (Multiple llc is irrelevant. You can always consider them as z or t candidates).
I asked because, for some people, group means subset.

Back to the top, then. What you have is a solution with zt-whip(BI) of maximal length 17 instead of:
- no solution with only nrczt-whips
- a solution with nrczt-braids of maximal length 26 (Mauricio's).

It is an interesting example showing that in some cases, introducing right-linking objects (here simple ones, segments) more complex (here just a little more complex) than mere candidates can lead to a simpler solution.
Can you post the full resolution path in nrc notation? There may appear some point of comparison with Maurico's braid solution.

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ronk   🗋 Posted: Sat Jan 16, 2010 10:49 am   Post subject: [quote]

Joined: 02 Nov 2005
Posts: 2751
Location: Southeastern
USA

> **denis_berthier wrote:**
> What you have is a solution with zt-whip(BI) of maximal length 17 instead of:
> - no solution with only nrczt-whips
> - a solution with nrczt-braids of maximal length 26 (Mauricio's).
>
> It is an interesting example showing that in some cases, introducing right-linking objects (here simple ones, segments) more complex (here just a little more complex) than mere candidates can lead to a simpler solution.

I don't think what **Allan Barker** has is a zt-whip(BI) at all. Using single-digit groups (in mini-rows and mini-columns) as either left- or right-linkiing candidates is one thing. Using box\line or line\box interactions in the hierarchy of techniques is quite another.

> **denis_berthier wrote:**
> Can you post the full resolution path in nrc notation? There may appear some point of comparison with Maurico's braid solution.

To be fair then, you should ask **Mauricio** to replace his posted solution with one in "nrc notaton" too. Also, I think Allan's pencilmarks for his first (or only) occurrence of **g**zt-whip(HS,NS) should be sufficient to settle this "BI vs grouped" issue.

[edit: Sorry Allan, I had your name as Alllan.]

Last edited by ronk on Sat Jan 16, 2010 4:40 pm; edited 1 time in total

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denis_berthier   🗋 Posted: Sat Jan 16, 2010 11:05 am   Post subject: [quote] [edit]

Joined: 19 Jun 2007
Posts: 1173
Location: Paris, France

> **ronk wrote:**
> > **denis_berthier wrote:**
> > What you have is a solution with zt-whip(BI) of maximal
> > length 17 instead of:

> - no solution with only nrczt-whips
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On the contrary, I think the discussion with Allan concludes clearly that he does have whips(BI), not only an isolated BI rule.

> **ronk wrote:**
>
> > **denis_berthier wrote:**
> >
> > Can you post the full resolution path in nrc notation? There may appear some point of comparison with Maurico's braid solution.
>
> To be fair then, you should ask **Mauricio** to replace his posted solution with one in "nrc notaton" too.

I had done it in a previous post. No fairness question here. I'm quite sure it isn't a problem for any of them.

> **ronk wrote:**
>
> Also, I think Allan's pencilmarks for his first (or only) occurrence of **g**zt-whip(HS,NS) should be sufficient to settle this "BI vs grouped" issue.

What's interesting is to see the whole resolution paths, where they diverge and (maybe) where a whip(BI) replaces a longer braid.

grouped-whip and whip(BI) are the same thing. I used "grouped-whip" before I introduced the very general whip(FP). Since that time, I tend to write whip(BI), but it is the same thing.

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ronk

Joined: 02 Nov 2005
Posts: 2751
Location: Southeastern USA

Posted: Sat Jan 16, 2010 11:50 am   Post subject: [quote]

> **denis_berthier wrote:**
>
> > **ronk wrote:**
> >
> > I don't think what **Allan Barker** has is a zt-whip(BI) at all. Using single-digit groups (in mini-rows and mini-columns) as either left- or right-linkiing candidates is one thing. Using

> box\line or line\box interactions in the hierarchy of techniques is quite another.

> On the contrary, I think the discussion with Allan concludes clearly that he does have whips(BI), not only an isolated BI rule.
> ...
> ...
> grouped-whip and whip(BI) are the same thing. I used "grouped-whip" before I introduced the very general whip(FP). Since that time, I tend to write whip(BI), but it is the same thing.

If they're the same thing and if, as you say, Allan has both whips(BI) and an "isolated BI rule", why would enabling his grouping option make any difference at all?

> **denis_berthier wrote:**
>> **ronk wrote:**
>>> To be fair then, you should ask **Mauricio** to replace his posted solution with one in "nrc notation" too.
>>
>> I had done it in a previous post. No fairness question here. I'm quite sure it isn't a problem for any of them.

OK, I didn't see your request ... but I now see Mauricio has changed it.

> **denis_berthier wrote:**
>> **ronk wrote:**
>>> Also, I think Allan's pencilmarks for his first (or only) occurrence of **g**zt-whip(HS,NS) should be sufficient to settle this "BI vs grouped" issue.
>>
>> What's interesting is to see the whole resolution paths, where they diverge and (maybe) where a whip(BI) replaces a longer braid.

I see, make the reader-follower manually do perhaps 30 error-prone eliminations before reaching the interesting step. How quaint 😐

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denis_berthier   Posted: Sat Jan 16, 2010 11:57 am   Post subject: [quote] [edit]

Joined: 19 Jun 2007
Posts: 1173
Location: Paris, France

> **ronk wrote:**
>> **denis_berthier wrote:**
>>> **ronk wrote:**
>>>> I don't think what **Allan Barker** has is a zt-whip(BI) at all. Using single-digit groups (in mini-rows and mini-columns) as either left- or right-linkiing candidates is one thing. Using box\line or line\box

> interactions in the hierarchy of techniques is quite another.

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> ...
> ...
> grouped-whip and whip(BI) are the same thing. I used "grouped-whip" before I introduced the very general whip(FP). Since that time, I tend to write whip(BI), but it is the same thing.

If they're the same thing and if, as you say, Allan has both whips(BI) and an "isolated BI rule", why would enabling his grouping option make any difference at all?

When you have nrczt-whips, you automatically have the isolated BI rule: nrczt-whip[1]=BI.

Even without ever seeing the shadow of Allan's program, I can easily guess that "enabling the grouping option" switches from nrczt-whip to whip(BI).

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ronk   Posted: Sat Jan 16, 2010 1:22 pm   Post subject: quote

Joined: 02 Nov 2005
Posts: 2751
Location: Southeastern USA

> **denis_berthier wrote:**
> I can easily guess that "enabling the grouping option" switches from nrczt-whip to whip(BI).

Cutting to the chase here, how does whip(BI) make the exclusion r8c5<>1 in this illustration?

Code:

```
 /  1  /  |  .   .  .  |  .  /  .
 1  1  1  |  .   .  .  |  .  1  .
 /  1  /  |  .   .  .  |  .  /  .
-------+--------+------
 .  .  .  |  .   .  .  |  .  /  .
 /  1  /  |  /   1  /  |  /  /  /
 .  .  .  |  .   .  .  |  .  /  .
-------+--------+------
 .  .  .  |  .   .  .  |  .  /  .
 .  .  .  |  .  -1  .  |  .  1  .
 .  .  .  |  .   .  .  |  .  /  .

'/' <=> cell void of candidate <1>
```

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Allan Barker   Posted: Sat Jan 16, 2010 1:27 pm   Post subject: quote

Joined: 21 Feb 2008
Posts: 504
Location: Bangkok

> **denis_berthier wrote:**
>
> > **ronk wrote:**
> >
> > > **denis_berthier wrote:**
> > >
> > > >).It is an interesting example showing that in some cases, introducing right-linking objects (here simple ones, segments) more complex (here just a little more complex) than mere candidates can lead to a simpler solution.
> > >
> > > I don't think what **Alllan Barker** has is a zt-whip(BI) at all. Using single-digit groups (in mini-rows and mini-columns) as either left- or right-linkiing candidates is one thing. Using box\line or line\box interactions in the hierarchy of techniques is quite another.
> >
> > On the contrary, I think the discussion with Allan concludes clearly that he does have whips(BI), not only an isolated BI rule.

Denis, just in the interest of clear communication, can you indicate what I said that concludes clearly that I do have whips(BI), not only an isolated BI rule, after having said:

> **Allan Barker wrote:**
>
> I'm not quite sure of [what] whip[BI]s [is]. (basic interactions?). I just allow multiple rlc and/or multiple llc to link through a single box/line intersection, which forms a group-link.

In my own words I would call this a group-link switch.

BTW, I do allow t- extensions to prior grouped (multiple) rlc candidates. I assume this is the norm.

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denis_berthier   📄 Posted: Sat Jan 16, 2010 1:40 pm   Post subject: [quote] [edit]

Joined: 19 Jun 2007
Posts: 1173
Location: Paris, France

Allan,
1) You you don't have an nrczt-whip solution
2) whip[1] = BI
3) conclusion: you don't haeve a solution with only whips and BI (which would be the same as 1 above)

If "enabling the grouping option" in whips doesn't mean having whip(BI), can you state clearly what it means ?

As you say

> **Allan Barker wrote:**
>
> I do allow t- extensions to prior grouped (multiple) rlc candidates

what does "prior" mean here: only the previous one or all the previous ones?

If you gave the full resolution path, all would be clearer.

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denis_berthier   Posted: Sat Jan 16, 2010 1:54 pm   Post subject: [quote] [edit]

Joined: 19 Jun 2007
Posts: 1173
Location: Paris, France

> **ronk wrote:**
>
> > **denis_berthier wrote:**
> > I can easily guess that "enabling the grouping option" switches from nrczt-whip to whip(BI).
> >
> > Cutting to the chase here, how does whip(BI) make the exclusion r8c5<>1 in this illustration?
> >
> > **Code:**
> >
> > ```
> > / 1 / | .   . . | . / .
> > 1 1 1 | .   : . | . 1 .
> > / 1 / | .   . . | . / .
> > -------+--------+-------
> > . . . | .   . . | . / .
> > / 1 / | /   1 / | / / /
> > . . . | .   . . | . / .
> > -------+--------+-------
> > . . . | .   . . | . / .
> > . . . | . -1 . | . 1 .
> > . . . | .   . . | . / .
> >
> > '/' <=> cell void of candidate <1>
> > ```

Very easy

whip(BI) r5n1{c5 c2} - b1n1{r2c2 r2c13} - c8n1{r2 .} ==> r9c5 <> 1

or
whip(BI) r5n1{c5 c2} - b1n1{r2c2 r2c13 r1c2#1 r3c2#1} - c8n1{r2 . r8*} ==> r9c5 <> 1

with the t and z candidates displayed in detail

Last edited by denis_berthier on Sat Jan 16, 2010 2:55 pm; edited 1 time in total

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ronk   Posted: Sat Jan 16, 2010 2:27 pm   Post subject: [quote]

Joined: 02 Nov 2005
Posts: 2751
Location: Southeastern

> **denis_berthier wrote:**
>
> whip(BI) r5n1{c5 c2} - b1n1{r2c2 r2c13} - c8n1{r2 .} ==> r5c5 <> 1

USA

```
or
whip(BI) r5n1{c5 c2} - b1n1{r2c2 r2c13 r1c2#1 r3c2#1} - c8n1{r2 .
r8*} ==> r5c5 <> 1
```

Except for the r5c5, I certainly don't have a problem with that, but where -- prior to this recent exchange with **Allan Barker** and I -- have you defined whip(BI) to include single-digit grouped candidates? A link to such an expression in an actual puzzle would even be better.

This is starting to look like a back door redefinition of long-standing definitions of "Box/Line Interaction" and "Line/Box Interaction", which are techniques not patterns.

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Allan Barker   Posted: Sat Jan 16, 2010 2:55 pm   Post subject: [quote]

Joined: 21 Feb 2008
Posts: 504
Location: Bangkok

> **denis_berthier wrote:**
> If "enabling the grouping option" in whips doesn't mean having whip(BI), can you state clearly what it means ?

I refer only to the common meaning of "grouped" or "grouped candidates". When 2 or 3 candidates lie in a single box/line interesection, they can logically function as a single candidate in chains, etc. To be clear, here are a few drawn examples. The chains run left to right. The heft most candidate in each case is an llc. Red are candidates forced false, green are forced true. Blue candidates in the central chute are the multiple rll.

A picture says 729 + 324 = 1053 words.
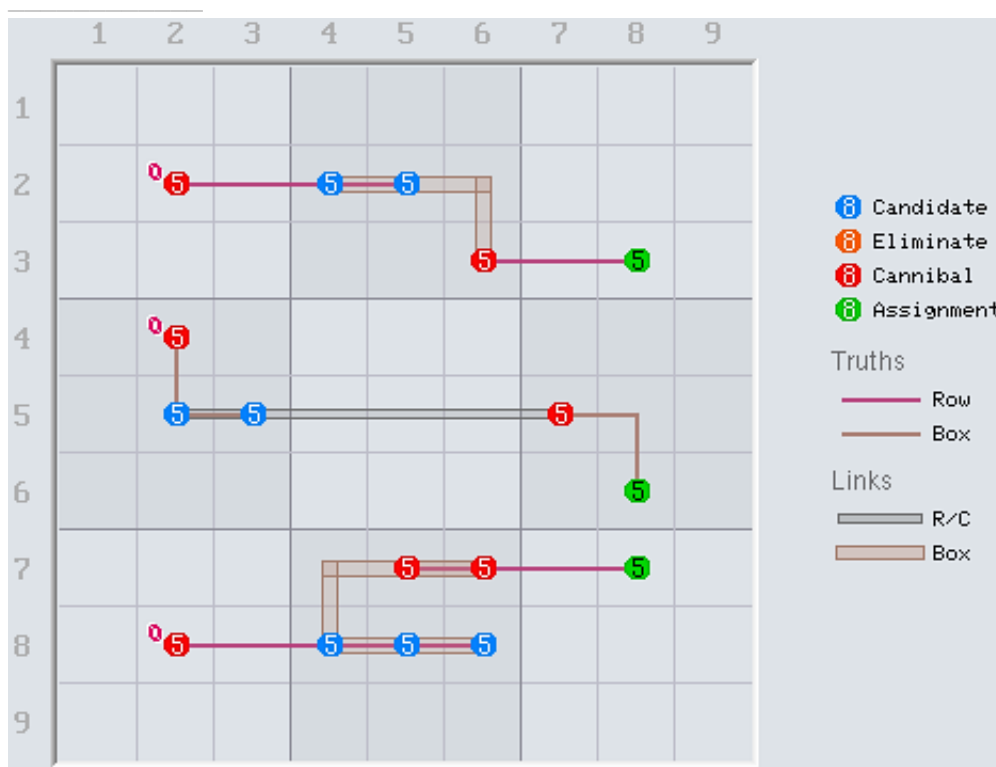
> **denis_berthier wrote:**
>> As you say
>>> **Allan Barker wrote:**
>>>> I do allow t- extensions to prior grouped (multiple) rlc candidates
>>
>> what does "prior" mean here: only the previous one or all the previous ones?

Same prior as t- extensions to prior sinlge rlcs.

> **denis_berthier wrote:**
>> If you gave the full resolution path, all would be clearer.

.

My nrc notation output is temporailly down. I can see if I can get it working. But I think grouped links should be clear by now.

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denis_berthier

Posted: Sat Jan 16, 2010 3:09 pm   Post subject: [quote] [edit]

Joined: 19 Jun 2007
Posts: 1173
Location: Paris, France

[quote="ronk"]

> **denis_berthier wrote:**
>> whip(BI) r5n1{where -- prior to this recent exchange with **Allan Barker** and I -- have you defined whip(BI) to include single-digit grouped candidates?

http://www.sudoku.com/boards/viewtopic.php?t=5591&postdays=0&postorder=asc&start=203 dated oct 17, 2008

Indeed, I've been mistaken in my posts above, I didn't call them grouped-whips but hinged-whips

> **ronk wrote:**
>> This is starting to look like a back door redefinition of long-standing definitions of "Box/Line Interaction" and "Line/Box Interaction", which are techniques not patterns.

BI can be considered as patterns, precisely whip[1]. I've shown this long ago.

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denis_berthier

Posted: Sat Jan 16, 2010 3:10 pm   Post subject: [quote] [edit]

Joined: 19 Jun 2007
Posts: 1173
Location: Paris, France

> **Allan Barker wrote:**
>> My nrc notation output is temporailly down. I can see if I can get it working. But I think grouped links should be clear by now.

Location: Paris, France

So we'll have to wait before we see any output of your solver.

It's clear that you're dealing with whips(BI).

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Allan Barker   Posted: Sat Jan 16, 2010 3:16 pm   Post subject: quote

Joined: 21 Feb 2008
Posts: 504
Location: Bangkok

> **denis_berthier wrote:**
>
>> **ronk wrote:**
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>>> **denis_berthier wrote:**
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>>>> whip(BI) r5n1{where -- prior to this recent exchange with **Allan Barker** and I -- have you defined whip(BI) to include single-digit grouped candidates?
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>>> http://www.sudoku.com/boards/viewtopic.php?t=5591&postdays=0&postorder=asc&start=203 dated oct 17, 2008
>>
>> Indeed, I've been mistaken in my posts above, I didn't call them grouped-whips but hinged-whips

So good, then my solution uses hinged-whips.

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