Ruby - Feature #10326

[PATCH] optimize: recv << "literal string"

10/05/2014 09:29 AM - normalperson (Eric Wong)

Status:	Rejected
Priority:	Normal
Assignee:	
Target version:	2.2.0

Description

Concatenating literal strings to existing strings seems fairly common practice, so avoid extra garbage when doing it. I don't know if escape analysis is coming to Ruby, but this seems easier-to-do for now:

vm2_strcat

```
i = 0
str = ""
while i<6_000_000 # benchmark loop 2
  i += 1
  str << "const"
  str.clear
end
```

```
trunk 1.020890216
trunk 1.018797116
trunk 0.992393447
built 0.626914306
built 0.627910138
built 0.644469095
```

---

benchmark results:
minimum results in each 3 measurements.
Execution time (sec)

```
name |trunk |built
--------+-------+------
loop_whileloop2 |0.160 |0.159
vm2_strcat* |0.833 |0.468
```

Speedup ratio: compare with the result of `trunk' (greater is better)

```
name |built
--------+-------
loop_whileloop2 |1.006
vm2_strcat* |1.779
```

Future optimizations:

- recv << "interpolated #{dstr}"
  (immediate free + force recycle)

- elide allocation for equality comparisons:
  str == "literal" and "literal" == str

- optimize << recv is IO << (str|dstr) (maybe)

Related issues:

Related to Ruby - Feature #10329: [PATCH 2/1] optimize: foo == "literal string"	**Rejected**	**10/06/2014**

History

#1 - 10/06/2014 02:32 AM - normalperson (Eric Wong)

- Related to Feature #10329: [PATCH 2/1] optimize: foo == "literal string" added

#2 - 10/07/2014 01:21 AM - normalperson (Eric Wong)

normalperson@yhbt.net wrote:

> Future optimizations:
>
> - recv << "interpolated #{dstr}"
>   (immediate free + force recycle)

Tried, not worth it from what I can tell:
http://80x24.org/spew/m/7c7dd29f45920fb8fc9d2c72858334c60e0a9c58.txt
(however, a good learning experience for me)

> - elide allocation for equality comparisons:
>   str == "literal" and "literal" == str

See [Feature #10329] and [Feature #10333]

> - optimize << recv is IO << (str|dstr) (maybe)

I doubt it's worth the effort because of syscall overhead. This (#10326) is fairly minor compared to the "==" optimizations in #10329 and #10333

#3 - 10/07/2014 03:55 AM - nobu (Nobuyoshi Nakada)

- Description updated

#4 - 10/24/2014 03:27 AM - normalperson (Eric Wong)

- Status changed from Open to Rejected

obsoleted by Feature #10423

Files

0001-optimize-recv-literal-string.patch	3.28 KB	10/05/2014	normalperson (Eric Wong)