

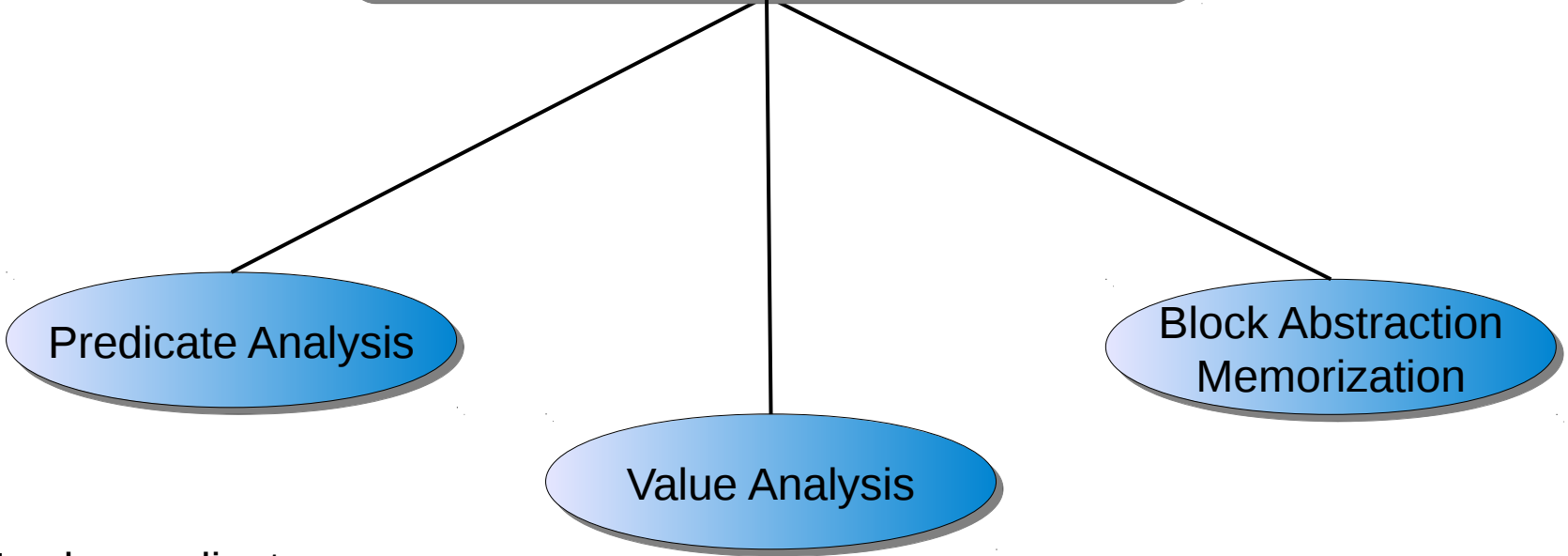
CPA-BAM-BnB: Block-Abstraction Memoization and Region-based Memory Models for Predicate Abstractions



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ISPRAS

CPA-BAM-BnB



- Tracks predicates

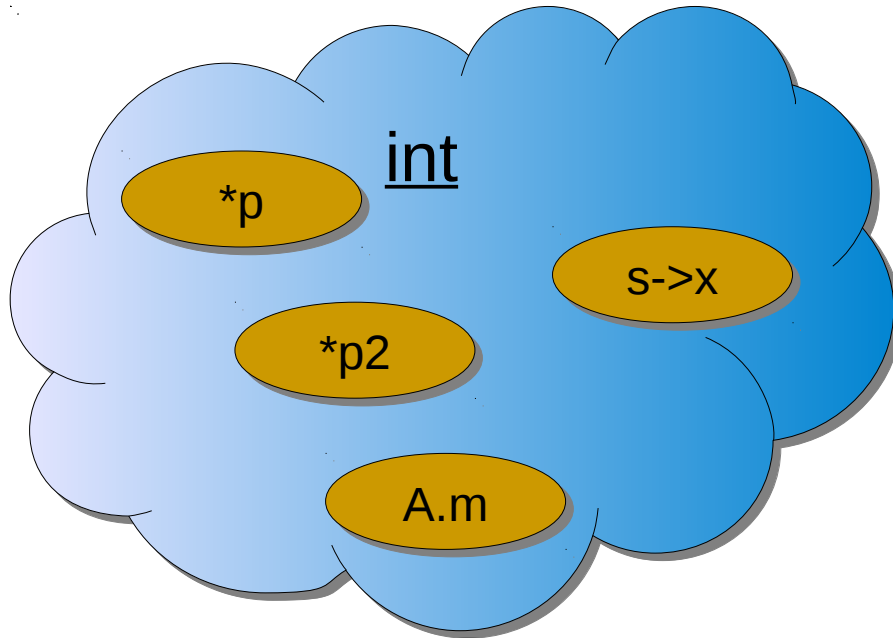
```
var > 0 && *p < var
```

Memory Model

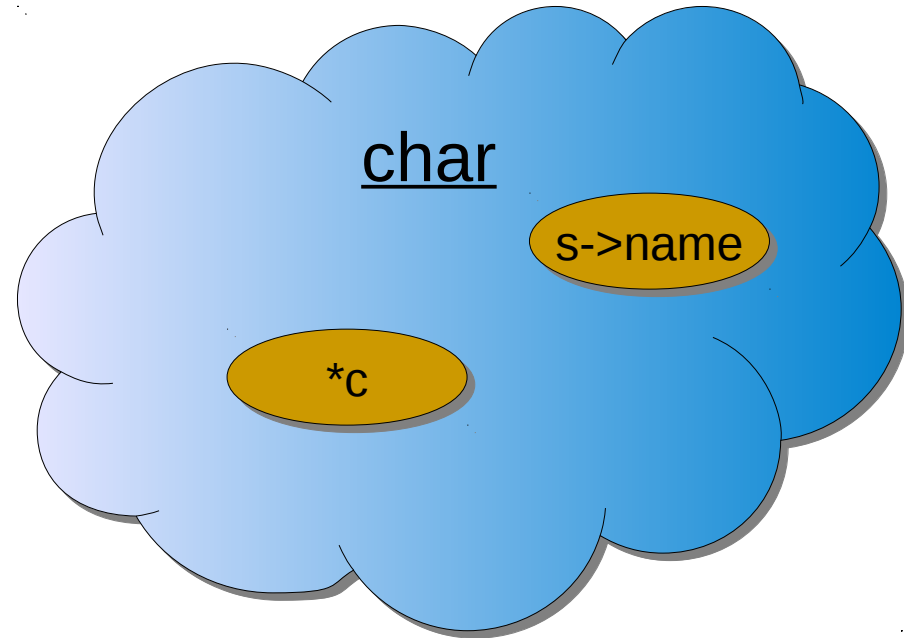
- Tracks explicit values
- ```
i = 0 && j = 1
```

- Reuses cached abstraction

# Memory Model

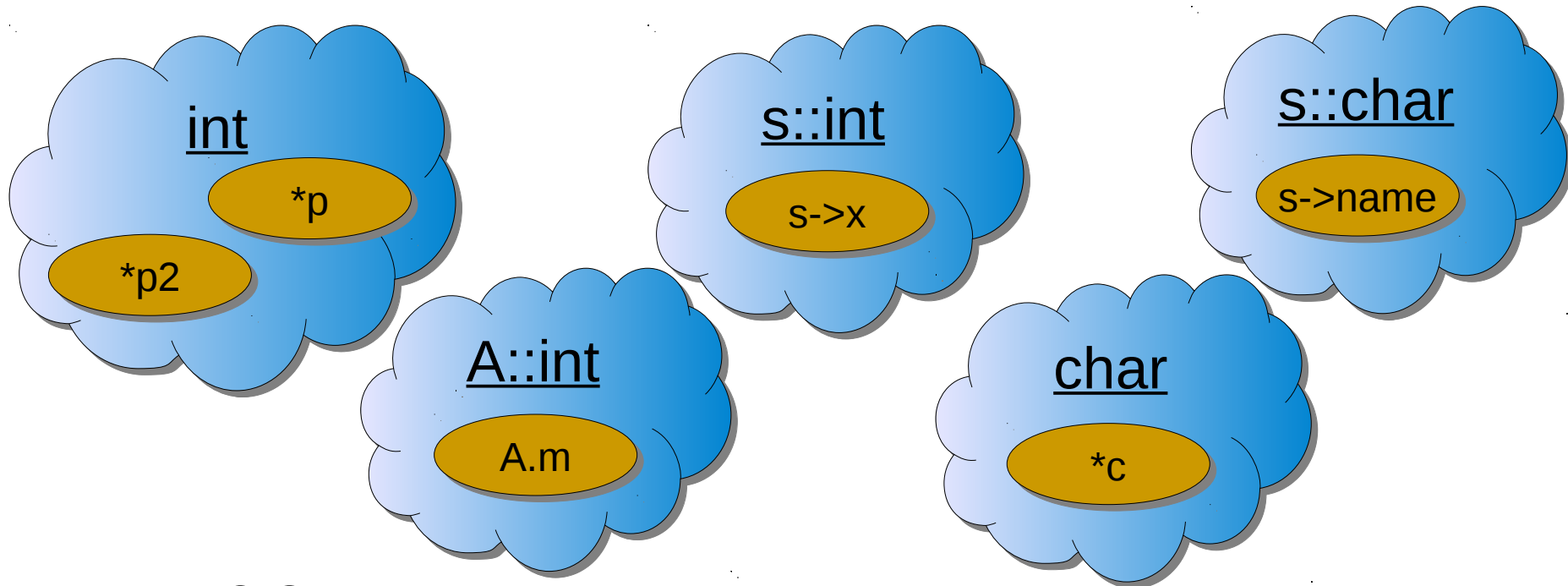


$p \neq p2 \neq \&A.m \neq \&(s \rightarrow x) ?$



$c \neq \&(s \rightarrow name) ?$

# BnB Memory Model



p ≠ p2 ?

# CPA-BAM-BnB-18 vs. CPA-BAM-BnB-19

- Fixed bugs

|                 | sv-comp18  | sv-comp19  |
|-----------------|------------|------------|
| Total true      | 2111       | 2067       |
| Confirmed true  | 1585 (75%) | 1471 (71%) |
| Total false     | 181        | 135        |
| Confirmed false | 129 (71%)  | 101 (75%)  |