CoCoA-5 - Feature #306

Function for accessing the pointed value

12 Feb 2013 11:54 - Anna Maria Bigatti

Status:	Closed		Start date:	12 Feb 2013
Priority:	High		Due date:	
Assignee:	Anna Maria Bigatti		% Done:	100%
Category:	Parser/Interpreter		Estimated time:	0.00 hour
Target version:	CoCoA-5.0.9		Spent time:	2.15 hours

Description

We have many arguments like

```
...(intrusive_ptr_cast<BigIntValue>(v)->theInteger)...
...(intrusive_ptr_cast<RingElemValue>(v)->theRingElem)...
```

where v is a **intrusive_ptr<RightValue>**

I think we should have a function returning "the actual value".
As I cannot see very far I suggest, at least to start with, one function per type (making it easier to control the types)
instead of a very abstract function (opening the road for a more automatic way of "CoCoA-5 oveloading").
Example:

```
  RingElem& theRingElem(const intrusive_ptr<RightValue>& v)
  { return intrusive_ptr_cast<RingElemValue>(v)->theRingElem; }
```

would that work? any suggestion for a better name?

AMB 2013-02-13 it works and is called, for the time being, **PtrCastRingElem**

Related issues:

Related to CoCoA-5 - Design #294: BuiltInFunctions: General "OneLiner" for ar...	**Closed**	**23 Jan 2013**

History

#1 - 12 Feb 2013 12:07 - Anna Maria Bigatti

- Category set to Parser/Interpreter

- Target version set to CoCoA-5.0.9

#2 - 12 Feb 2013 14:29 - John Abbott

JAA likes the proposal; cannot see any obvious objection (I wonder if the compiler will).

Other possible names: GetRingElem, AsRingElem.

#3 - 13 Feb 2013 08:52 - Anna Maria Bigatti

- Status changed from New to In Progress

- Assignee set to Anna Maria Bigatti

Too many new functions for modules: I think I'd better start experimenting with this "shortcut" ;-)
I'll try the name **CastPtrRingElem**: easy to find and replace...

But what is the difference between these two?

```
boost::dynamic_pointer_cast<const RingElemValue>
intrusive_ptr_cast<RingElemValue>
```

??

#4 - 13 Feb 2013 10:00 - Anna Maria Bigatti

Implemented: seems to work fine. Example (in BuiltinFunctions.H)

```
inline const BigInt& PtrCastBigInt(boost::intrusive_ptr<const RightValue> x)
{ return intrusive_ptr_cast<const BigIntValue>(x)->theInteger; }
```

... I admit I never know when problems with temporaries might arise, but I'm confident that it would crash on my tests if this were the case ;-)

#5 - 15 Feb 2013 17:59 - Anna Maria Bigatti

- Target version changed from CoCoA-5.0.9 to CoCoA-5.0.3

- % Done changed from 0 to 50

#6 - 31 May 2013 09:36 - Anna Maria Bigatti

- Target version changed from CoCoA-5.0.3 to CoCoA-5.0.9

#7 - 03 Mar 2014 19:15 - Anna Maria Bigatti

- Status changed from In Progress to Feedback

- Priority changed from Normal to High

- % Done changed from 50 to 90

I think it looks pretty nice now. I even wrote a bit of documentation.
Feedback.

#8 - 21 Mar 2014 11:31 - Anna Maria Bigatti

- Status changed from Feedback to Closed

- % Done changed from 90 to 100

No problems have arisen. Closing.