Scala Inline

No Author Given

No Institute Given

Abstract. [1]

Keywords: Partial Evaluation, Macros

1 Syntax

2 Typing

References

1. Eugene Burmako and Martin Odersky. Scala Macros, a Technical Report. In *Third International Valentin Turchin Workshop on Metacomputation*, 2012.

$t ::=$	Terms:
x	identifier
$(x : iT) \Rightarrow t$	function
$t(t)$	application
$\{\overline{x = t}\}$	record
$t.x$	selection
$\mathit{inline}\ t$	inlining starting point
$T ::=$	Types:
$iT \Rightarrow jT$	function type
$\{\overline{x : iT}\}$	record type
$iT,\ jT,\ kT ::=$	Inlineable Types:
T	dynamic type
$\mathit{static}\ T$	static type
$\mathit{inline}?\ T$	maybe inline type
$\mathit{inline}!\ T$	must inline type

Fig. 1.

$$\frac{x : iT \in \Gamma}{\Gamma \vdash x : iT} \quad \text{(T-Ident)}$$

$$\frac{\Gamma,\ x : iT_1 \vdash t : jT_2}{\Gamma \vdash (x : iT_1) \Rightarrow t : \mathit{static}\ iT_1 \Rightarrow jT_2} \quad \text{(T-Func)}$$

$$\frac{\Gamma \vdash \overline{t : iT}}{\Gamma \vdash \{\overline{x = t}\} : \mathit{static}\ \{\overline{x : iT}\}} \quad \text{(T-Rec)}$$

$$\frac{\Gamma \vdash t_1 : i(jT_1 \Rightarrow kT_2) \quad \Gamma \vdash t_2 : jT_2}{\Gamma \vdash t_1(t_2) : (i \mathbin{\overline{\wedge}} j \mathbin{\overline{\wedge}} k)T_2} \quad \text{(T-App)}$$

$$\frac{\Gamma \vdash t : i\{x = jT_1, \overline{y = kT_2}\}}{\Gamma \vdash t.x : (i \mathbin{\overline{\wedge}} j)T_1} \quad \text{(T-Sel)}$$

$$\frac{\Gamma \vdash t : \mathit{static}\ T}{\Gamma \vdash \mathit{inline}\ t : \mathit{inline}!\ T} \quad \text{(T-Inline)}$$

Fig. 2. $\Gamma \vdash t : iT$

TODO

Fig. 3. Intersection of inlineable types $iT_1 \mathbin{\overline{\wedge}} jT_2$

TODO

Fig. 4. Intersection of types $T_1 \wedge T_2$