

OpenRTM-aist-0.2.0

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 $\% \mathfrak{H} \mathfrak{5} \mathfrak{7} \mathfrak{Q} \$ \mathfrak{r} \mathfrak{M} \mathfrak{x} \mathfrak{M} \mathfrak{Q} \$ \mathfrak{7} \$? \% \mathfrak{M} \% \mathfrak{C} \% \mathfrak{H} \% \mathfrak{o} ! < \% / ! \mathfrak{a} \% \mathfrak{n} \% \backslash \% \mathfrak{C} \% \mathfrak{H} \% \mathfrak{7} \% \mathfrak{9} \% \mathfrak{F} \% ' \$ \mathfrak{r} \mathfrak{4} \mathfrak{J} \mathfrak{C} \mathfrak{l} \$ \mathfrak{K} \mathfrak{9} = \mathfrak{C} [\$ \mathfrak{9} \$ \mathfrak{k} \$ \mathfrak{3} \$ \mathfrak{H} \$, = \mathfrak{F} \mathfrak{M} \mathfrak{h} \$ ^ \$ \mathfrak{9} ! \#$

$\text{OpenRTM-aist } \$ \mathfrak{K} \$ \mathfrak{O} \% \mathfrak{n} \% \backslash \% \mathfrak{C} \% \mathfrak{H} \% \mathfrak{7} \% \mathfrak{9} \% \mathfrak{F} \% ' \mathfrak{9} = \mathfrak{C} [\$ \mathfrak{K} \mathfrak{F} \mathfrak{C} \mathfrak{2} = \$ \mathfrak{7} \$? \% _ \% \mathfrak{I} \% \mathfrak{k} \% \mathfrak{a} \% (\% " \$ \mathfrak{G} \$ \mathfrak{9} ! \# \$ \mathfrak{7} \$ + \$ \mathfrak{7} \$ \mathfrak{J} \$, \$ \mathfrak{i} ! " \mathfrak{8} =$
: $_ \mathfrak{3} + \mathfrak{H} / \$ \mathfrak{5} \$ \mathfrak{l} \$ \mathfrak{F} \mathfrak{4} \mathfrak{V} \$ \mathfrak{b} \$ \mathfrak{J} \$ \$ \$? \$ \mathfrak{a} \$ \mathfrak{K} ! " \mathfrak{I} , \mathfrak{M} \mathfrak{W} \$ \mathfrak{J} \mathfrak{5} \mathfrak{G} = \$, \mathfrak{A} \mathfrak{4} \$ \mathfrak{F} < \mathfrak{B} \mathfrak{u} \$ \mathfrak{5} \$ \mathfrak{l} \$ \mathfrak{F} \$ \$ \$ \mathfrak{k} \$ \mathfrak{o} \$ \mathfrak{l} \$ \mathfrak{G} \$ \mathfrak{O} \$ " \$ \mathfrak{j} \$ ^ \$; \$ \mathfrak{s} \$ \mathfrak{7} ! " \% \mathfrak{P} \% \mathfrak{0}$
 $\$ \mathfrak{b} \mathfrak{B} ? \$ / 4 ^ \$ \mathfrak{s} \$ \mathfrak{G} \$ \$ \$ \mathfrak{k} \$ \mathfrak{H} ; \mathfrak{W} \mathfrak{o} \$ \mathfrak{l} \$ ^ \$ \mathfrak{9} ! \# : \# \mathfrak{8} \mathfrak{e} ! " \% \mathfrak{f} ! < \% \mathfrak{6} \$ \mathfrak{N} \mathfrak{3} ' \mathfrak{M} \mathfrak{M} \$ + \$ \mathfrak{i} \$ \mathfrak{N} \% \mathfrak{U} \% \# ! < \% \mathfrak{I} \% \mathfrak{P} \% \mathfrak{C} \% / \$ \mathfrak{r} \mathfrak{F} \mathfrak{e} \$ \mathfrak{F} \$ \mathfrak{h} \$ \mathfrak{j} ; \mathfrak{H} \$ \$ \mathfrak{d}$
 $\$ \mathfrak{9} \$ \$ \% _ \% \mathfrak{I} \% \mathfrak{k} \% \mathfrak{a} \% (\% " \$ \mathfrak{K} \mathfrak{e} . \mathfrak{D} \mathfrak{9} \$ \mathfrak{5} \$; \$? \$ \$ \$ \mathfrak{H} \mathfrak{9} \mathfrak{M} \$ (\mathfrak{F} \$ \$ \$ ^ \$ \mathfrak{9} ! \#$

$\text{Bh1} > \text{O} \text{RT} \% _ \% \mathfrak{I} \% \mathfrak{k} \% \mathfrak{a} \% (\% " \$ \mathfrak{H} \$ \mathfrak{O}$

$\text{RT} \% _ \% \mathfrak{I} \% \mathfrak{k} \% \mathfrak{a} \% (\% " \$ \mathfrak{N} \mathfrak{3} \mathfrak{5} \mathfrak{M} \mathfrak{W} \$ \mathfrak{r} \mathfrak{e} \mathfrak{h} \mathfrak{L} \mathfrak{e} \$ \mathfrak{7} \$ ^ \$ \mathfrak{9} ! \# \text{RT} \% _ \% \mathfrak{I} \% \mathfrak{k} \% \mathfrak{a} \% (\% " \$ \mathfrak{N} \mathfrak{8} \mathfrak{a} \mathfrak{5} \mathfrak{3} + \mathfrak{H} / \$ \mathfrak{K} ; \mathfrak{5} \$ \mathfrak{C} \$? \mathfrak{G} \mathfrak{X} \mathfrak{7} \mathfrak{J} \$ \mathfrak{o} \mathfrak{8} = : _ \$ \mathfrak{N} \mathfrak{2}]$
 $\mathfrak{B} \mathfrak{j} \$ \mathfrak{J} \$ \mathfrak{I} \$ \mathfrak{r} < \mathfrak{5} \$ \mathfrak{7} \$ ^ \$ \mathfrak{9} ! \# \text{RT} \% _ \% \mathfrak{I} \% \mathfrak{k} \% \mathfrak{a} \% (\% " \$ \mathfrak{H} \$ \mathfrak{O} \$ \mathfrak{I} \$ \mathfrak{a} \$ \$ \$ \mathfrak{b} \$ \mathfrak{N} \$ \mathfrak{J} \$ \mathfrak{N} \$ + ! " \$ = \$ \mathfrak{N} \% \mathfrak{3} \% \mathfrak{s} \% ; \% \mathfrak{W} \% \mathfrak{H} ! " \mathfrak{F} \mathfrak{O} ' ! " \mathfrak{4} \mathfrak{p} \mathfrak{K} \backslash \mathfrak{E} *$
 $\$ \mathfrak{J} \% " ! < \% - \% \mathfrak{F} \% / \% \mathfrak{A} \% \mathfrak{c} \$ \mathfrak{K} \$ \mathfrak{D} \$ \$ \$ \mathfrak{F} > \mathfrak{R} \mathfrak{p} \$ \mathfrak{7} \$ ^ \$ \mathfrak{9} ! \#$

$\text{Bh2} > \text{O} \text{RT} \% \mathfrak{3} \% \mathfrak{s} \%] ! < \% \mathfrak{M} \% \mathfrak{s} \% \mathfrak{H} \mathfrak{F} \sim \mathfrak{L} \mathfrak{g}$

$\text{RT} \% _ \% \mathfrak{I} \% \mathfrak{k} \% \mathfrak{a} \% (\% " \$ \mathfrak{N} < \mathfrak{B} \mathfrak{u} \$ \mathfrak{N} \$ \mathfrak{F} \$ \mathfrak{H} \$ \mathfrak{D} \$ \mathfrak{G} \$ " \$ \mathfrak{k} ! " \text{OpenRTM-aist } \$ \mathfrak{N} \% \$ \% \mathfrak{s} \% \mathfrak{9} \% \mathfrak{H} ! < \% \mathfrak{k} \mathfrak{J} \mathfrak{J} \mathfrak{K} ! ! " \mathfrak{4} \mathfrak{p} \mathfrak{K} \backslash \mathfrak{E} * \$ \mathfrak{J} ; \mathfrak{H}$
 $\$ \mathfrak{J} \mathfrak{J} \mathfrak{J} \$ \mathfrak{K} \$ \mathfrak{D} \$ \$ \$ \mathfrak{F} \mathfrak{e} \mathfrak{h} \mathfrak{L} \mathfrak{e} \$ \mathfrak{7} \$ ^ \$ \mathfrak{9} ! \# \text{OpenRTM-aist } \$ \mathfrak{N} \% \$ \% \mathfrak{s} \% \mathfrak{9} \% \mathfrak{H} ! < \% \mathfrak{k} \$ \mathfrak{K} \mathfrak{I} , \mathfrak{M} \mathfrak{W} \$ \mathfrak{J} \% \mathfrak{Q} \% \mathfrak{C} \% \mathfrak{l} ! < \% \mathfrak{8} \mathfrak{N} ' \$ \mathfrak{N} \% \$ \% \mathfrak{s} \% \mathfrak{9} \% \mathfrak{H} ! <$
 $\% \mathfrak{k} \mathfrak{J} \mathfrak{J} \mathfrak{K} ! \$ \mathfrak{K} \$ \mathfrak{D} \$ \$ \$ \mathfrak{F} \$ \mathfrak{O} ! " \mathfrak{T} \mathfrak{U} \mathfrak{O} ? \$ \mathfrak{N} ! \mathfrak{V} \mathfrak{O} \mathfrak{M} \mathfrak{B} \mathfrak{8} \% \mathfrak{Q} \% \mathfrak{C} \% \mathfrak{l} ! < \% \mathfrak{8} \$ \mathfrak{N} \% \mathfrak{S} \% \mathfrak{k} \% \mathfrak{I} \$ \mathfrak{K} \$ \mathfrak{D} \$ \$ \$ \mathfrak{F} ! \mathfrak{W} \$ \mathfrak{b} \$ " \$ \mathfrak{o} \$; \$ \mathfrak{F} \$ \mathfrak{4} ; \mathfrak{2} \mathfrak{H} / \$ \mathfrak{e} \$ \mathfrak{5} \$ \$! \#$

$\text{Bh3} > \text{O} \text{RT} \% \mathfrak{3} \% \mathfrak{s} \%] ! < \% \mathfrak{M} \% \mathfrak{s} \% \mathfrak{H} \% \mathfrak{W} \% \mathfrak{i} \% \mathfrak{0} \% \mathfrak{i} \% _ \% \mathfrak{s} \% \mathfrak{0}$

$\text{OpenRTM-aist } \$ \mathfrak{K} \$ * \$ \mathfrak{l} \$ \mathfrak{k} \% \mathfrak{3} \% \mathfrak{s} \%] ! < \% \mathfrak{M} \% \mathfrak{s} \% \mathfrak{H} \$ \mathfrak{N} \mathfrak{7} \mathfrak{A} \mathfrak{B} \mathfrak{V} \$ \mathfrak{c} < \mathfrak{B} \mathfrak{T} \mathfrak{J} \mathfrak{J} \mathfrak{K} ! \$ \mathfrak{K} \$ \mathfrak{D} \$ \$ \$ \mathfrak{F} > \mathfrak{R} \mathfrak{p} \$ \mathfrak{7} \$ ^ \$ \mathfrak{9} ! \# \text{OpenRTM-}$
 $\text{aist } \$ \mathfrak{r} ; \mathfrak{M} \mathfrak{Q} \$ \mathfrak{7} \$ \mathfrak{F} \% \mathfrak{3} \% \mathfrak{s} \%] ! < \% \mathfrak{M} \% \mathfrak{s} \% \mathfrak{H} \$ \mathfrak{r} : \mathfrak{n} \mathfrak{e} . \$ \mathfrak{9} \$ \mathfrak{k} \mathfrak{J} \mathfrak{J} \mathfrak{K} ! \$ \mathfrak{K} \$ \mathfrak{D} \$ \$ \$ \mathfrak{F} \mathfrak{e} \mathfrak{h} \mathfrak{L} \mathfrak{e} \$ \mathfrak{7} \$ ^ \$ \mathfrak{9} ! \#$

$\text{Bh4} > \text{O} \text{OpenRTM-aist } \% \mathfrak{D} ! < \% \mathfrak{k}$

$\text{RT} \% \mathfrak{3} \% \mathfrak{s} \%] ! < \% \mathfrak{M} \% \mathfrak{s} \% \mathfrak{H} \$ \mathfrak{r} ; \mathfrak{R} \mathfrak{E} \mathfrak{E} * \$ \mathfrak{K} \mathfrak{A} ' : \mathfrak{n} \$ \mathfrak{9} \$ \mathfrak{k} \$? \$ \mathfrak{a} \$ \mathfrak{N} \% \mathfrak{D} ! < \% \mathfrak{k} \text{RTCLink } \$ \mathfrak{N} \mathfrak{4} \mathfrak{p} \mathfrak{K} \backslash \mathfrak{E} * \$ \mathfrak{J} ; \mathfrak{H} \$ \mathfrak{J} \mathfrak{J} \$ \mathfrak{d} ! " \$ = \$ \mathfrak{N}$
 $\$ [\$ + \text{OpenRTM-aist } \$ \mathfrak{K} \mathfrak{I} \mathfrak{U} \mathfrak{B} \mathfrak{O} \$ \mathfrak{7} \$ \mathfrak{F} \$ \$ \$ \mathfrak{k} \% \mathfrak{D} ! < \% \mathfrak{k} \mathfrak{7} \mathfrak{2} \$ \mathfrak{K} \$ \mathfrak{D} \$ \$ \$ \mathfrak{F} \mathfrak{e} \mathfrak{h} \mathfrak{L} \mathfrak{e} \$ \mathfrak{7} \$ ^ \$ \mathfrak{9} ! \#$

Bh5 >O RTM Specification

OpenrRTM-aist \$N%\$%s%?!<%U%'!<%9;  M\$G\$" \$k RTM Specification \$K\$D\$ \$\$F@hL@ \$ 7\$ ^\$9! #

Bh6 >O OpenRTM %/%i%9%j%U%!%1%s%9

OpenRTM-aist \$N%/%i%9%j%U%!%1%s%9\$G\$9! #

Bh7 >O OpenRTM IDL %j%U%!%1%s%9

RTM Specification \$K4p\$E\$ \$\$? IDL %\$%s%?!<%U%'!<%9Dj5  N%j%U%!%1%s%9\$G\$9! #

Bh8 >O OpenRTM 3HD%IDL %j%U%!%1%s%9

RTM Specification \$+\$iGI@8\$7\$?! "OpenRTM-aist FH< \$N IDL %\$%s%?!<%U%'!<%9Dj5  N%j%U%!%1%s%9\$G\$9! #

IU? 0MB8%Q%C%1!<%8\$N%S%k%I\$K\$D\$ \$\$F

OpenRTM-aist \$r%3%s%Q%\$%k\$9\$k\$?\$a\$KI,MW\$J%Q%C%1!<%@N '\$N%S%k%I\$N;   }\$K\$D\$ \$\$F@hL@ \$ 7\$ ^\$9! #

Bh1 >O RT %_I%k%&% (% "\$H\$O

1.1 RT %_I%k%&% (% "\$NL\E *

%\$%\$?! <%M%CH\$N9-\$, \$j\$H\$H\$b\$K! "%m% \C%H\$d%nm% \C%H% 7%9%F% '\$r%M%CH%o! <%/2=\$7%M%CH%o! <%/> @N%j%!=<%9\$r3HMQ\$7\$F! "99\$J\$KNG=2=\$rL\; \$98&5 f&3+H/\$, @9\$S\$K9T\$O\$1\$F\$ \$\$^\$9! # \$7 \$+\$7\$J\$, \$i! "\$3\$1\$1\$N% 7%9%F% '\$N3+H/\$K\$ODL> \$DBg\$J3+H/5 \$Q< \$NEjF~5 \$S! "D9\$ \$3+H/4|4V\$, I,MW\$G! "%m% \C%H@=IJ\$H\$7\$F; \$ \$KD\$6 \$G\$-\$k\$@ \$1\$N%1%Y%k! "5 G=!"2A3J\$N\$b\$N\$O\$ \$\$^\$ @ \$H \$S\$I@ \$\$K=P\$F\$ \$\$J\$ \$\$N\$,8=> @G\$9! #

RT %_I%k%&% (% "\$O! "MM! 9\$J%nm% \C%HMWAG! JRT %3%\$%]! <%M%\$%H! K\$ rDL? .%M%CH%o! <%/ \$r2p\$7 \$F< M3\$KAH\$_9g\$O\$;\$k\$3\$H\$G! "B\$MM\$J%M%CH%o! <%/nm% \C%H% 7%9%F% '\$N9=C [\$r2DG=\$K\$9\$K! "%M%CH%o! <%/J,; @3%\$%]! <%M%\$%H2=5 \$Q\$K\$h\$k6 \$L\$W%i%CH%U%! <%'\$r3NN)\$9\$k\$3\$H\$rL\; \$7\$F\$ \$^\$9! #

\$3\$3\$G\$ \$\$&%m% \C%H% 7%9%F% '\$H\$O! "I, \$:\$7\$b0\F0%nm% \C%H\$d%R%e! <%^%N%\$%I%nm% \C%H\$H\$ \$\$C \$?C1BN\$N%nm% \C%H\$N\$_\$rA [Dj\$7\$F\$ \$\$KLu\$G\$O\$J\$ /!"V%nm% \C%H5 \$Q\$ r3HMQ\$7\$?! "< B\$3&\$KF/\$-\$+\$1\$k5 G=\$r; \$D%M%CH%o! <%/2=\$5\$1\$?CNG=2=\$% 7%9%F% '!W\$NAmBN\$H\$7\$F\$N%nm% \C%H% 7%9%F% '\$r; X \$7\$F\$ \$\$^\$9! #Nc\$ (\$F%;%\$%5! "%"/%A%e\$ (!<?\$r@83h6 \$V\$NCf\$KJ,; G [CV\$5\$;! "%M%CH%o! <%/ \$r 2p\$7\$F6 @4\$9\$k\$3\$H\$K\$h\$j@83h; Yg\$d2p8n\$r< B=\$9\$k\$H\$ \$\$C\$?! "018+nm% \C%H\$K\$O8+\$ (\$J\$ \$\$, %m% \C%HE*\$J5 \$Q\$ rMxMQ\$7\$?% 7%9%F% '\$r9-\$/Jq4^\$7\$F\$ \$\$^\$9! #< B]! "%;%\$%7%\$%05 \$Q\$H%;%\$%5 \$+\$iF@\$i\$1\$k?.9f\$N=HM)! "5 \$S "%/%A%e\$ (!<?EY\$K\$h\$k8=< B\$3&\$X\$NF/\$-\$+\$1\$N%U%#! <%I%P%C %/\$K\$h\$jA j8_: rMQ\$ r9T\$&% 7%9%F% '\$O%nm% \C%H5 \$Q\$H\$ \$\$C\$F\$h\$ \$\$G\$7\$g\$&! #F |K\%nm% \C%H9)6 @q \$,< B\$H\$J\$j! "\$3\$&\$7\$?%nm% \C%H5 \$Q\$NAm> \$r RT(RobotTechnology) \$H8F\$V\$3\$H\$,Ds8@ \$5\$1 \$F\$ \$\$^\$9! #

RT %_I%k%&% (% "\$C\$3\$&\$7\$?5 \$Q(RT) \$N6 \$L\$W%i%CH%U%! <%'\$r@Hw\$7! "%m% \C%H8&5 f&3+H/\$N8zN (\$r9b\$a! "RT \$NE,MQH0O\$r9-\$2! "\$5\$1\$K\$O?7\$?J; \$ \$rB\$/\$3\$H\$rL\; \$7\$F8=:_ \$b3+H/\$,B3\$1\$1\$1\$F\$ \$\$^\$9! #nm% \C%H% 7%9%F% '\$N%=%U%H%&% '% "3+H/\$K\$*\$ \$\$F\$O! "DL> @N%=%U%H%&% '% "3+H/\$H\$F\$Y\$F! "%m% \C%H% 7%9%F% 'FCM-\$NLdBj\$N\$? \$a\$K%=%U%H%&% '% "\$N: EMxMQ@-\$,Dc\$/3+H/8zN (\$,0-\$ \$\$H\$ \$\$C\$7LdBj\$,; E&\$5\$1\$F\$ \$\$^\$9! # \$3\$&\$7\$?GX7J\$+\$i! "%m% \C%H5 \$QMWAG\$r%=%U%H%&% '% "%1%Y%k\$G\$b%8%e! <k2=\$7! "\$=\$N: EMxMQ@-\$r9b\$a\$k%_I%k%&% '% "\$r8&5 f&3+H/\$7B?\$/\$N% f! <%6 \$K; H\$C\$F\$b\$i\$! "\$5\$1\$K\$O3+H/\$K; 2C\$7\$F\$b\$i\$&\$3\$H\$G! "%m% \C%H% 7%9%F% '3+H/\$K; @9\$k6 \$L %W%i%CH%U%! <%'\$rD\$6 \$9\$k\$3\$H\$, RT %_I%k%&% (% "\$NL\E*\$J\$N\$G\$9! #

1.2 RT %_I%k%&% (% "\$N8=>u\$H2]Bj

OpenrRTM-aist \$N3+H/\$O< \$K! "2f!9! "FHN)9T@/K!?M; 6 B \$QAn@98&5 \$j! &CNG=\$% 7%9%F% '8&5 f I tLg! &%?%/%\$%\$F%j%8% '%\$%98&5 \$0%k! <W\$K\$h\$J9T\$O\$1\$F\$ \$\$^\$9! #4p\$O! "J?@.14G/EY\$+\$iJ? @.16G/EY\$^\$G! "FHN)9T@/K!?M?% (%M%k%.!<!&; 6 B \$QE}9g3+H/5 9=(NEDO) \$N21 @ \$5 %m% \C %H%A% c%1%\$%8%W%nm%0%i! 'V%nm% \C%H5 G=H/8=\$N\$? \$a\$KI,MW\$JMWAG\$ \$Q3+H/! W\$K\$*\$ \$\$F%nm% \C%H

MQJ,,; 6_I%k%&% '\$N8&5 B+H/%W%me8% '%/%H\$K\$h\$ j%9%?! <%H\$ 7\$^\$ 7\$?! #3\$N8&5 6W%me8% '%/%H\$K\$*\$ \$F! "J,,; 6_I%k%&% '\$N%\$%s%?! <%U% '! <9%1%Y%k\$G\$N; MM\$, :vD j\$5\$1! "%W%meH%?%\$%W< B Au\$,400.\$ 7\$^\$ 7\$?! #K\=q\$O! "\$=\$N%W%meH%?%\$%W< Bu OpenRTM-aist-0.2.0 \$N; MQK!Ey\$K\$D\$ \$\$F 2r@b\$9\$k\$?\$ a\$NK\\$G\$9! #

> 6 W%me8% '%/%H\$G\$O! "RT %_I%k%&% '\$K\$D\$ \$\$F\$N%3%\$%;%W%H\$N5 D@5 6S! "BgOH\$G\$N%\$%s %?%U% '! <9\$H\$ 3\$1\$K4p\$E\$ \$\$?%W%meH%?%\$%W< Bu\$,F@ \$i\$1\$^\$ 7\$?! #3\$ 7\$+\$ 7\$J\$, \$i! "\$3\$1\$O\$ "\$/\$^ \$G\$5%\$%W%k\$N; MM\$*\$h\$S< Bu\$J\$N\$G! "< B 7%9%F% '\$G\$N; MQ\$KBQ\$ (\$&\$k%1%Y%k\$K\$^\$G\$O\$ \$\$?C\$F \$ \$\$J\$ \$\$N\$,8=> 6G\$9! #: #8e! "B?\$/\$N%f! <6\$+\$i\$N%U%#! <I%P%C%/\$r4p\$K< MQE*\$G> \Y\$J; MM\$r :vD j\$7! "%j%U% !%1%\$%9\$H\$J\$K< Bu\$r3+H/\$9\$kI,MW\$, "\$j\$^\$9! #OpenRTM-aist-0.2.0 \$O\$=\$NB-\$, \$+\$j\$H\$J\$K< Bu\$G\$ "\$j! ": #8eB?\$/\$N2~NI! &2~A1\$,I,MW\$J%1%Y%k\$N%=\$U%H%&% ("G\$ "\$k\$3\$H\$r\$4 > 6N\$*\$-\$/\$@ \$5\$ \$! #

1.3 RT %_I%k%&% (% "\$NFC9

RT %_I%k%&% ("NFC9\$r0J2<\$K5 62\$^\$9! #

RT %7%9%F% '\$KFCM-\$J5!G=\$r%5%J! <%H\$ 7\$F\$ \$\$k

=>Mh\$N%M%C%H%o! </%m% \C%H! "> p_s2HEE\$< p_s2=\$O%&%9\$J\$ IIT J,Ln\$rCf?4\$H\$ 7\$EN'; 6N%_I %k%&% '\$NDs0F\$, \$ \$\$/\$D\$+\$J\$5\$1\$F\$ \$\$^\$9! #3\$1\$ i\$O! "

- 8D! 9\$N5 4o\$K%3% ^%s% I\$ rAw\$k
- %9%H% j! <_%s%0\$r9T\$&

\$J\$I\$, < 6N\$G\$ "\$j! "3F5 4o\$r8DJL\$K%M%C%H%o! </1 [\$7\$K; 6&\$3\$H\$rCf?4\$K9M\$ (\$i\$1\$F\$*\$j5 4o 4V\$NL)\$JO"7H\$^\$G\$O9MN8\$5\$1\$F\$ \$\$^\$;\$s! #RT %_I%k%&% ("G\$O! "%3% ^%s%I%U%m! <\$H%G! <?%U %m! <\$rL@< 6*\$KJ,N\$75 4o4V\$NL)\$JO"7H\$r0U< \$7\$?@_7W\$H\$J\$C\$F\$ \$\$^\$9! #M%C%H%o! < /> 6N%3 %s%J! <M%\$H\$O8_\$ \$\$KB>\$N%3%\$J! <M%\$H\$r\$ "\$?+\$b< 6,\$N0 LI t\$N5 G=\$G\$ "\$k\$+\$N\$h\$&\$K; MQ \$7%?%9%/\$r?k9T\$9\$k\$3\$H\$, \$G\$-\$^\$9! #3\$^\$?! "CORBA! "DCOM \$H\$ \$\$C\$?HEMQE*\$J,,; 6*\$V%8%' %/%H%_I%k%&% '\$b3NN)\$5\$1\$F\$ \$\$^\$9\$,! "RT %_I%k%&% '\$H\$=\$1\$ i\$H\$N0 LHVBq\$-\$J0o\$ \$\$O! "%3 %s%J! <M%\$H% 7H\$, %"/%F%#V\$KF0: n\$9\$k\$3\$H! "> 6 %3%\$J! <M%\$H4V\$NL)\$JO"7H\$J\$I! "RT %7 %9%F% '\$K8GM-\$J5 G=\$r%5%J! <%H\$ 7\$F\$ \$\$k\$3\$H\$G\$9! #

9b\$%9%1! <i%\$%j%F%#\$rM-\$7\$?%3%\$J! <M%\$H2=\$,2DG=

5 Mh\$NC1BN\$N%me \C%HC10L\$K\$*\$1\$k%3%\$J! <M%\$H2=\$G\$O! "\$=\$1\$>\$1\$N%3%\$J! <M%\$H\$ rAH \$_9q\$O\$;\$F? 7\$7\$%me \C%H% 7%9%F% '\$r9=C [\$9\$k\$3\$H\$O: \$Fq\$G\$7\$?! #RT 4XO"5 7Q\$r5 G=MWAGC10L \$G\$b%8%e! <k2=\$7I tIJ2=\$9\$k\$3\$H\$K\$h\$j! "?"7\$7\$%me \C%H% 7%9%F% '\$N9=C [\$N\$_J\$ i\$!:! "%me \C %H0J30\$N\$,Ln\$X\$bRT \$N3HMQ\$,3+\$+\$1\$^\$9! #5\$ i\$K! "RT %_I%k%&% '\$G\$O! "F101\$N%U%1! <' %o! </\$G! "AuCV%1%Y%k\$^\$G\$b9-\$/%+P! <9\$k\$3\$H\$,2DG=\$G\$9! #3\$N9b\$%9%1! <i%\$%j%F%#\$K\$h \$j! "%3%\$J! <M%\$H2=\$NN3EY\$r! "RT \$rI tIJ\$H\$7\$EDs6 \$7\$h\$&\$H\$7\$F\$ \$\$k\$b\$N5 6S=\$1\$ rMMQ\$7 \$h\$&\$H\$7\$F\$ \$\$k\$b\$N\$,I,MW\$Kl~\$8\$F< M3\$KA*\$V\$3\$H\$, \$G\$-! "N3EY\$N0 [\$J\$k%3%\$J! <M%\$H\$r< + :_ \$KAH\$_9q\$O\$;\$k\$J\$ I\$NL~MQL\$K\$*\$ \$\$F\$b! "I }9-\$ \$A*B\$r\$,2DG=\$H\$J\$ j\$^\$9! #

%W% i% C% H% U%)! <% '!' %M% C% H% o! <% /Hs0MB8

FCDj\$N7W; \$ dOS! "FCDj\$N%M% C% H% o! <% /\$K8BDj\$5\$1\$F\$O! "< M3\$JN3EY\$G%b%8%e! <%k2=\$r9T\$&
\$3\$H\$O: \$Fq\$G\$9! #RT %_ % I%k%&% '% "\$N9M\$ (J)\$O! "FCDj\$N% "! <%-F%/%A% c\$K0MB8\$7\$J\$ \$\$b\$N\$G\$9\$N
\$G! "3FCPU \$dOS! "%M% C% H% o! <%/%\$%s%?%U% '! <%9(%G%P%\$%9) \$KE,MQ2DG=\$G\$9! #RTM \$G\$O4pK\
E*\$KCORBA \$,; MQ2DG=\$J%W% i% C% H% U%)! <% '\$G\$ "\$1\$P! "OS! "8@31\$lLd\$ o\$:< Bu\$9\$k\$3\$H\$,=FMh
\$^\$9! #

4 {B8\$N%=%U%H%&% '%"; q; :\$N: FMxMQ\$,2DG=\$G\$ "\$k

RT %_ % I%k%&% (% "\$G\$O%=%U%H%&% (%"; @;\$N: FMxMQ\$,MF0W\$K\$J\$ j! "F3F~\$NI_5 \$,Dc\$/J\$ k\$h\$&\$K
%U%1! <% '%o! <%/\$d% D! <%k72\$J\$ I\$ rMQ0U\$7\$F\$ \$\$^\$9! # \$^\$?! "01C640@ . \$7\$?%3% s%]! <%M% s%H\$O! "3+
H/< UJ30\$K\$b: FMxMQ2DG=\$G\$ "\$j! "%\$%s%F%0%1! <%?\$N% "%\$%G%"< Bh\$GB?< BMM\$J%7%9%F% '\$r< B=
\$G\$-\$k\$G\$7\$g\$&! #

9q:]I8= '\$K4p\$E\$ \$\$?; EMM: vDj

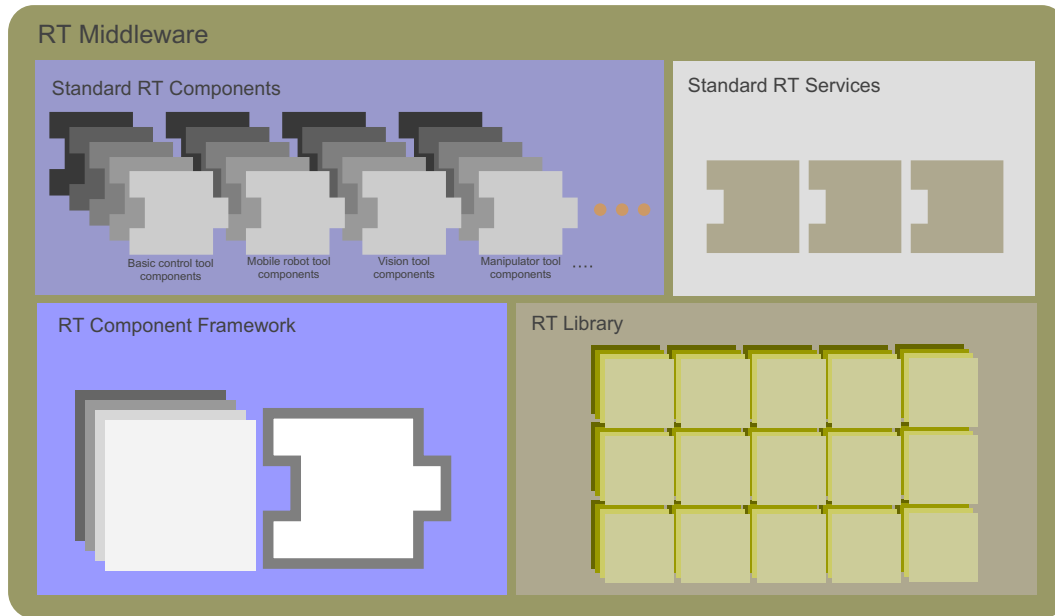
RT %_ % I%k%&% '% "\$O! "%M% C% H% o! <%/DL? . \$N\$?\$a\$N%_ % I%k%&% '% "\$H\$7\$FOMG (Object Manage-
ment Group) \$N: vDj\$7\$? CORBA \$r: NMQ\$7\$F\$ \$\$^\$9! # \$^\$?! "RT %_ % I%k%&% '% "< B\$N\$O! "OMG
\$NSDO %b%G%k\$X\$N% ^%C%T% s%0: n6 B ,9T\$ o\$1\$F\$*\$j! "I8= '2=\$r0U< \$7\$?; EM: vDj\$r9T\$C\$F\$ \$\$^
\$9! # \$3\$NI8= '2=: n6 B N2aDx\$G! "%m% \ %C%H\$NU,; @b%8%e! <%k2=\$*\$h\$S\$=\$N; EM\$NI8= '2=\$OOMG
\$G=EMW; B\$5\$1; @a! "MDA(Model Driven Architecture) \$K4p\$E\$/%m% \ %C%H%=%U%H%&% '% "3+H/\$N
\$?\$a\$NI8= '2=: n6 Bb; @^\$m\$&\$H\$7\$F\$ \$\$^\$9! #

1.4 RT %_ % I%k%&% (%"! &RT %3% s%]! <%M% s%H

RT %_ % I%k%&% (% "\$H\$O! "> eR\$7\$?\$h\$&\$KRT \$N\$?\$a\$N%W% i% C% H% U%)! <% '\$G\$ "\$j\$=\$N\$?\$a\$N%_ % I
%k%&% (% "\$r\$5\$7\$^\$9! #?^1.1 \$ORT %_ % I%k%&% (% "\$N354Q?^\$G\$9! #RT %_ % I%k%&% (% "\$O! "

- %3% s%]! <%M% s%H%U%1! <% '%o! <%/! "
- I8= 'E*\$K: FMxMQ\$5\$1\$k%=%U%H%&% (% "ItIJ72! "
- %i%\$%V%i%j72! "
- I8= '%5! <%S%972

\$J\$I\$+\$i9=@ . \$5\$1\$^\$9! #



? ^ 1.1: RT %_I%k%&% (% "

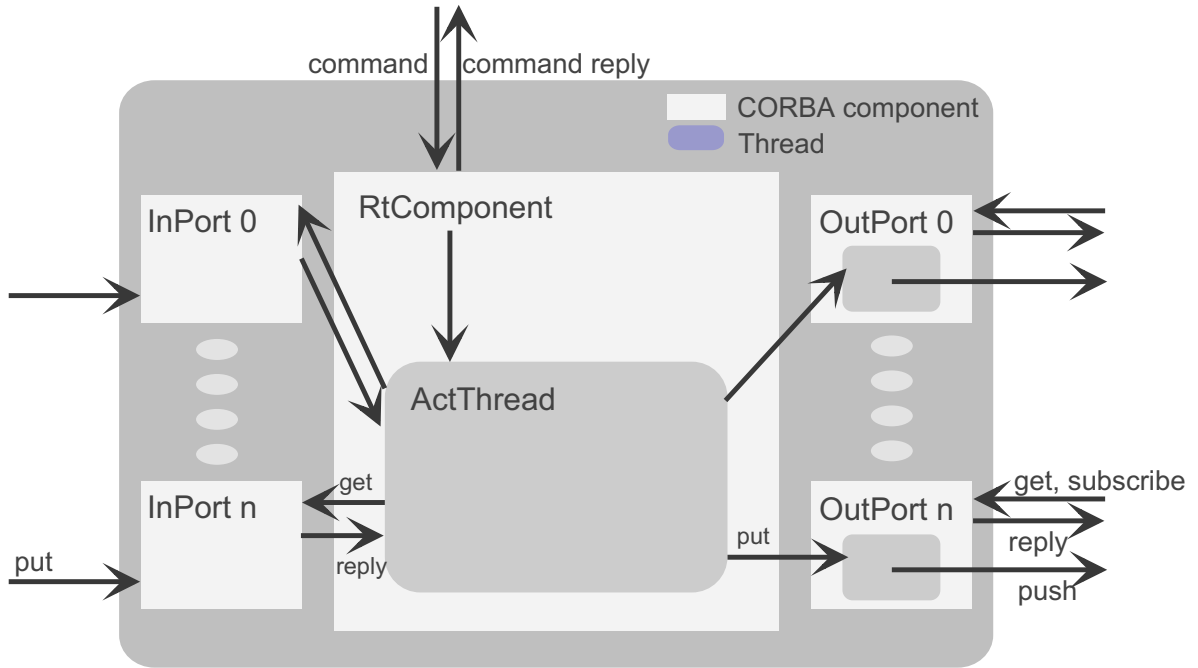
RT %_I%k%&% (% "\$N\$&\$A! "RT % 7% 9%F% ' \$r9= @ . \$ 9\$ k< B N\$ H\$ J\$ k% =% U% H% &% (% "I t l J 7 2\$ r RT % 3% s %] ! <% M% s% H\$ H8 F\$ S\$ ^ \$ 9! # RT % 3% s%] ! <% M% s% H\$ O D L> @ "> @ \$ NRT % 3% s%] ! <% M% s% H% U% l ! <% ' % o ! < % / \$ r M Q\$ \$ \$ F : n @ . \$ 5\$ l\$ ^ \$ 9! # 4 { B 8\$ NRT % 3% s%] ! <% M% s% H\$ r M x M Q\$ 7\$? \$ j ! "< @ , \$ G 3 + H / \$ 7\$? RT % 3% s %] ! <% M% s% H\$ r I t l J \$ N\$ h\$ &\$ K A H\$ _ 9 o\$ o\$; \$ k\$ 3\$ H\$ G L \ E * \$ H\$ 9\$ k% 7% 9% F% ' \$ r : n @ . \$ 7\$ ^ \$ 9! # RT % 3% s%] ! < % M% s% H 7 2\$ r ; M Q\$ 9\$ k\$? \$ a\$ K I , M W\$ J 5 @ = \$ G ! "% 3% s%] ! <% M% s% H< ? H\$ K\$ J\$ \$ \$ b\$ N\$ O\$ \$ \$ D\$ + \$ N% 5 ! <% S% 9 7 2\$ r M x M Q\$ 9\$ k\$ 3\$ H\$, = F M h\$ ^ \$ 9! # \$ ^ \$? ! "% 3% s%] ! <% M% s% H\$ N : n @ . \$ r = u\$ l\$ k% i% \$ % V% i% j\$ J\$ I\$ b\$ D\$ 6 \$ 9 \$ k\$ 3\$ H\$ r A [D j\$ 7\$ F\$ \$ \$ ^ \$ 9! #

0 J> @ N A 4\$ F\$ r\$ ^ \$ H\$ a\$? \$ b\$ N\$ r RT %_I%k%&% (% "\$H8 F\$ S\$ ^ \$ 9! #

1.5 RT % 3% s%] ! <% M% s% H

RT % 3% s%] ! <% M% s% H\$ N 4 p K \ E * 9 = B \$ \$ r @ b L @ \$ 7\$ ^ \$ 9! # ? ^ 1.2 \$ O RT % 3% s%] ! <% M% s% H\$ N% " ! <% - % F% / % A% d & % V% n% C% / ? ^ \$ G\$ 9! # RT % 3% s%] ! <% M% s% H\$ N ; M M\$ G\$ O% M% C% H% o ! <% /> @ K J , ; \$ 5\$ l\$? % 3% s%] ! <% M % s% H\$ X\$ N F) 2 a E * % % / ; % 9\$ r< B = \$ 9\$ k\$? \$ a\$ K ! " J , ; @ * % V% 8% ' % / % H 5 7 Q\$ r M Q\$ \$ \$ F< B u\$ 5\$ l\$ k\$ 3\$ H\$ r A [D j\$ 7\$ F\$ \$ \$ ^ \$ 9! #

OpenRTM-aist \$ G\$ O ! " O S ! & 8 @ 8 l H s 0 M B 8 @ - \$ r = E ; @ 7\$ F CORBA \$ r M Q\$ \$ \$ F< B u\$ 5\$ l\$ F\$ \$ \$ ^ \$ 9! #



? ^ 1.2: RT %3% s%]! <%M% s%H

DL> \$NJ,; 6*V%8%'/%H\$G\$O!"%G!<?\$N\$d\$j< 8j\$O4pK\E*\$K%a%=%C%I8F\$S=F\$7\$r2p\$7\$F9T\$o
 \$l\$^\$9!#\$3\$l\$KBP\$7\$F!"%m%\C%H\$N0)8f\$K\$*\$l\$kF~ENO%G!<?%9%H%j!<'\$O!"DL> 8a%=%C%I\$h
 \$j\$b%G!<?7?\$,=EMW\$J0UL#\$r; \$A\$^\$9!#

Nc\$(\$P!'6<M3EY\$r; \$D%8%g%\$%9%F%#C%/\$,\$"\$j!"\$3\$l\$,=ENO\$9\$k68D\$Ndoubling7?%G!<?\$rMQ
 \$\$\$FBP> ((%^K%T%e!l!<?!"0\F0m%\C%H!"F%e!<?%N%\$%IEy)\$rMM!9\$J!<(0LCV0)8f!"B.EY0)
 8f!"%\$%s%T!<(%s%90)8fey)\$G0)8f\$7\$?\$\$H\$7\$^\$9!#C1\$l\$J\$kJ,, 6*V%8%'/%H\$H\$7\$F%7%9%F%'\$r
 9=0,\$9\$k\$J\$i\$P!"%8%g%\$%9%F%#C%/\$C"\$i\$F\$k%?\$%W\$N0)8fBP> \$N%a%=%C%I(%\$%s%?!<U%'!<9)
 \$rM=\$aCN\$C\$F\$J\$J\$1\$l\$F\$J\$j\$^\$;\$s!#\$7+\$7\$J\$, \$i!"<Bj\$K\$QAw\$j<\$,68D\$Ndoubling7?%G!<?
 \$rAw\$k\$3\$H\$, \$G\$~!"< 1< \$b68D\$Ndoubling7?%G!<?\$r=H}\$7\$FF0:n\$9\$k\$3\$H\$, \$G\$~\$1\$P=J,\$J
 \$N\$G\$9!#RT %3% s%]! <%M% s%H\$C\$3\$&\$C\$?%G!<?8r49\$N\$?a\$K!"%G!<?7?\$,F1\$8\$G"\$1\$P0\B32D
 G=\$JInPort/OutPort\$HBF\$F\$l\$k%G!<?%]!<%H\$r; \$C\$F\$J\$^\$9!#

RT %3% s%]! <%M% s%H\$C\$/\$D\$+\$N%*V%8%'/%H\$+\$i9=0.\$5\$1\$F\$*\$j!"Bg\$-\$/J,\$1\$k\$H0J2<\$N3
 \$D\$NI tJ,\$+\$i0.\$j\$^\$9!#

RTComponent RT %3% s%]! <%M% s%H\$NK\BN\$G\$"\$j!"4pK\E*\$J%\$%s%?!<U%'!<9\$*\$h\$SF~ENO
 \$r9T\$&InPort/OutPort %*V%8%'/%H\$r0~n8D0J> 8 \$D!#H}\$r9T\$&%3%"m%8C%/\$r18D
 ; \$A!"3OI t\$^\$?CFbI t+\$iN%\$%Y%\$H\$Kl~\$8\$FFbI t> BV\$rA+0\$5\$;\$k!#\$3\$l\$rActivity\$H
 8F\$S!"B>\$H\$CFHN)\$7\$?%9%l%C\$I\$K3d\$jev\$F\$i10J2<\$K5 \$2\$K\$~ENO\$H\$CFHN)\$K=H}\$,9T\$o
 \$1\$k!#

InPort B>\$NRT %3% s%]! <%M% s%H\$+\$i\$N=ENO\$r\$r< 1< 8j%O%\$%I%j%\$%0\$9\$K\$~NO%]!<%H!#G!<
 %?\$N%9%H%j!<'\$r< 1< 8kI,MW\$, "\$kRT %3% s%]! <%M% s%H\$C\$3\$NInPort \$r; \$D!#%3%"m
 %8C%/\$O0"B3E*\$KAw\$i\$1\$F\$/\$k%G!<?\$KBP\$7\$F=H}\$r9T\$&\$?a!"4pK\E*\$K< 4|F0:n\$r9T\$&
 %3% s%]! <%M% s%H\$N\$_,\$3\$NInPort \$r; \$D!#

OutPort B>\$NRT %3% s%]! <%M% s%H\$X=H}\$7k2L\$N%G!<?%9%H%j!<'\$rEO\$9=ENO%]!<%H!#< 1< h
 \$kB&\$N%3% s%]! <%M% s%H\$+\$iCM\$r< 80\$9\$kpull7?\$N%G!<?~ENO\$H!"%5%V%9%/i%\$%V\$9\$k\$3
 \$H\$K\$h\$j< 1< 8jB&\$XG=F0E*\$K%G!<?\$rAw\$kpush7?\$NF0:n,\$"\$k!#

OpenRTM-aist \$G\$O! "> ẽ \$N9=B\$\$r; \$DRT %3%\$%! <%M%\$H\$r4JL\$K: nđ . \$G\$-\$k%U%1! <% '%o! < %/\$cD! <%k72\$, \$ "\$j\$ ^\$9! # \$3\$1\$ i\$ r; MQ\$ 9\$ k\$ 3\$ H\$ G! "4 {B8\$N%=%U%H%&% (%"; ¶ { %m% \C%HQ)8fMQ %i%\$%V%i%jEY) \$K%3%\$%! <%M%\$H\$NH i\$KJq\$ '\$3\$H\$, \$G\$-\$^\$9! # \$5\$ i\$ K! "0LC6%3%\$%! <%M%\$H2=\$5 \$1\$?%=%U%H%&% (% "\$O! "; MM\$, JQ\$ c\$ i\$ J\$ \$8B\$ j! ": G%3%\$Q% \$%k\$ 9\$ k\$ 3\$ H\$ J\$ /B>\$N%3%\$%! <%M%\$H \$HAH\$_9g\$ c\$;%7%9%F% '\$r9=C [\$9\$ k\$ 3\$ H\$, =EMh\$ k\$ N\$ G\$ 9! #

1.6 RT %3%\$%! <%M%\$H! "% ^%M! <%8% c! "%M! <% '%5! <%S%9

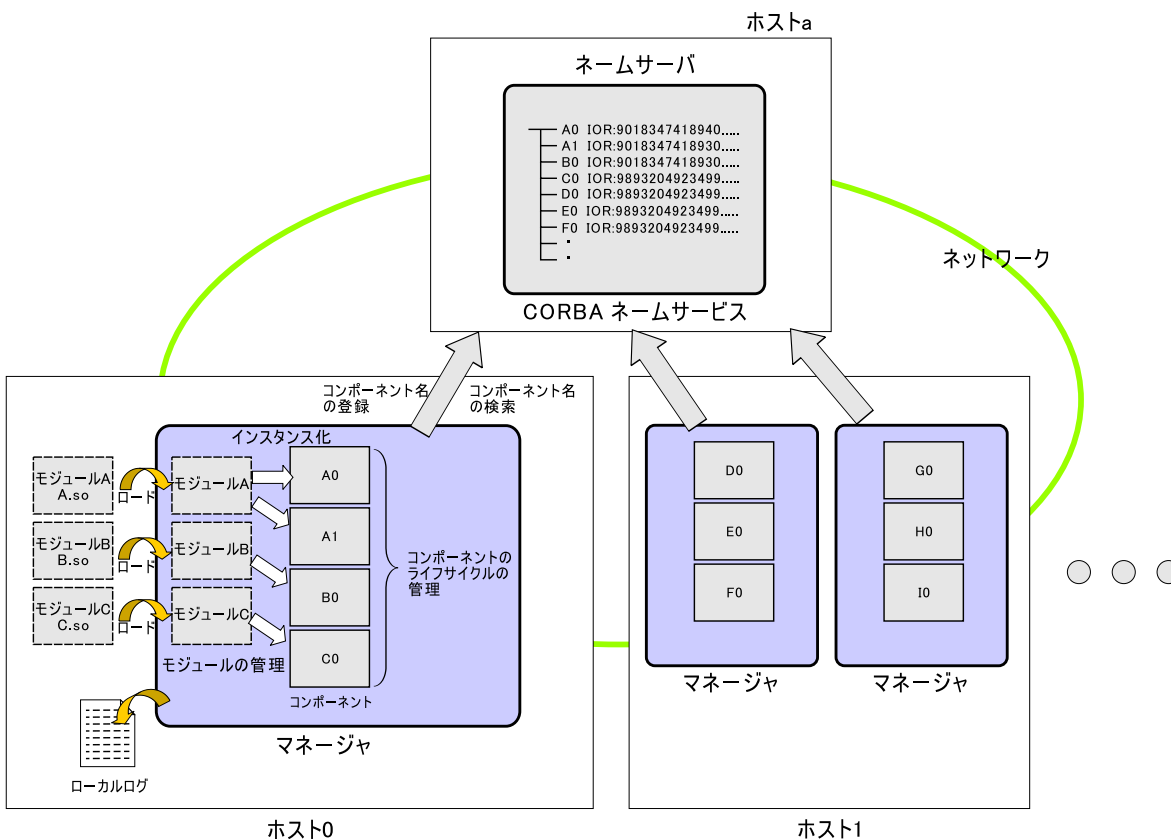
> eR\$ 7\$?\$ h\$ &\$K! "RT %3%\$%! <%M%\$H\$O! "%m% \C%H%7%9%F% '\$r9=C [\$9\$ k\$?\$ a\$MM! 9\$ J5 G=\$r ; \$C\$F\$ \$\$ ^\$9\$, ! "RT %3%\$%! <%M%\$H\$ 1\$ G\$ OUL # \$N\$ "\$k%7%9%F% '\$r: n\$ k\$ 3\$ H\$ O=EMh\$ ^\$;\$s! #4v \$D\$+\$N% [%9%> \$GF0: n\$ 9\$ k\$ 3%\$%! <%M%\$H\$r8 !: w\$ 7! "B3! "5 F0! "Dd; _9\$ k\$ J\$ IA': n\$ r9 T\$ &I, MW\$, \$ "\$j\$ ^\$9! #

OpenRTM-aist \$K\$*\$ \$F\$O! "RT %3%\$%! <%M%\$H\$N% i\$ \$%U%5%\$%/%k\$N4IM}! "%M! <% '%5! <%F\$X \$NEFO ?\$ J\$ I\$ r0 l3g\$ 7\$ F9 T\$ &%V%8% '%/%H\$H\$ 7\$ F%3%\$%! <%M%\$H% ^%M! <%8% c\$ rD\$6 \$ 7\$ F\$ \$\$ ^\$9! #

%3%\$%! <%M%\$H\$H% ^%M! <%8% c\$ cM! <% '%5! <%S%9\$ J\$ I\$ N4X78\$ O? ^ 1.3 \$N\$ h\$ &\$K\$ J\$ C\$F\$ \$\$ ^\$9! #

%3%\$%! <%M%\$H\$ODL> ɔ "%m! <%I2DG=\$J% i\$ \$%V%i%j7A< (Q=%b%8%e! <%k\$H8F\$V) \$GD\$6 \$5\$1! "% ^ %M! <%8% c\$ c\$ 3\$ N%b%8%e! <%k\$ r% m! <%I\$ 7! "%\$%\$%9% ?\$ 92=\$9\$ k\$ 3\$ H\$ G%3%\$%! <%M%\$H\$rđđ . \$ 7\$ ^\$9! #

\$ ^\$?! "% ^%M! <%8% c\$ Qđđ . \$ 7\$?%3%\$%! <%M%\$H\$, %M% C%H%o! < /> @NB>\$N% [%9%H\$ +\$ i\$ b8 !: w\$ G\$-\$k \$h\$ &\$K! "CORBA %M! <%_s%0%5! <%S%9\$ r; MQ\$ 7\$ F! "%M! <% '%5! <%F\$X%3%\$%! <%M%\$H\$NL>A0\$H%* %V%8% '%/%H%j%U% !%1%\$9\$ rEFO ?\$ 7\$ ^\$9! # \$?\$?! "%3%\$%! <%M%\$H\$O% ^%M! <%8% c\$ rDL\$ 7\$ F%M! <% '%5! <%F\$KB\$ 7\$ FLd\$ \$9g\$ c\$;\$ k\$ 3\$ H\$ K\$ h\$ j! "B>\$N%3%\$%! <%M%\$H\$rL>A0\$G8 !: w\$ 9\$ k\$ 3\$ H\$ b=EMh\$ ^\$9! #



? ^ 1.3: RT %3%\$%! <%M%\$H! "% ^%M! <%8% c! "%M! <% '%5! <%S%9

Bh2>0 RT %3% s%]! <%M% s% HF ~Lg

2.1 OpenRTM-aist \$N% \$% s% 9% H! <%k

\$3\$3\$+\$i\$O! "OpenRTM-aist \$r%!=<%9\$+\$i%S%k% I\$7%\$%s%9%H!<%k\$9\$k< jg\$r@bL@ \$7\$^\$9! #< + J,\$G%!=<%9\$+\$i%S%k% I\$7\$F%\$%s%9%H!<%k\$9\$k> 9g\$K\$O! "0J2<\$Nk jg\$K=>\$C\$F%\$%s%9%H!<%k\$r9T\$C \$F\$/\$@ \$5\$ \$! #%Q%C%1!<%8\$ rMxMQ\$9\$k> 9g\$K\$OF I\$ _Ht\$F\$7\$F\$b9=\$ \$ \$^\$;\$s! #

2.2 UNIX 70% 7% 9% F% ‘\$G\$N% S% k% I\$H% \$% s% 9% H! <%k

2.2.1 F0:n>r7o

OpenRTM-aist \$N% \$% s% 9% H! <%k\$K\$Q2<5 \$N%Q%C%1!<%8\$,I,MW\$G\$9! #BF%Q%C%1!<%8\$N%\$%s%9%H!<%k\$O! "\$=\$1\$>\$1\$N%I%-%e%a% s%H\$K=>\$C\$F9T\$C\$F\$/\$@ \$5\$ \$! #J\$*! "4JC1\$J%\$%s%9%H!<%kJ}K!\$K\$D \$F\$F\$O4,Kv\$NIUO? A !V0MB8%Q%C%1!<%8N‘\$N%S%k% I\$K\$D\$F\$F! W\$K\$F@bL@ \$7\$F\$ \$ \$^\$9\$N\$G; 2 97\$F \$/\$@ \$5\$ \$! #

! | 0MB8%Q%C%1!<%80IMw

ACE	The ADAPTIVE Communication Environment (ACE) 5.4 0J> e URL: http://www.cs.wustl.edu/~schmidt/ACE.html
boost	boost C++ %i%\$%V%i%j1.30 0J> e URL: http://www.boost.org/
ORB	8=:_N\$H\$3rBPl~ORB< Bu\$O omniORB-4.0 0J> \$N\$_H\$J\$C\$F\$ \$ \$^\$9! # omniORB – URL: http://omniorb.sourceforge.net/
Python	Python 2.2 0J> e#Python \$C%3% s%]!<%M% s% H\$r3 +H/\$9\$k> 9g\$K\$O! Python \$NB +H/4D6 \$bI,MW\$K\$J\$ j\$^\$9! # URL: http://www.python.org/
gcc	gcc \$O version3 0J9_\$,K>\$^\$7\$ \$! #gcc2.95.x \$G\$b%3% s% Q% \$%k2DG=\$G\$9\$,! " %*W%7%g% s\$r; 8j\$9\$kI,MW\$, \$"j\$^\$9! # (2<5 + 2 9) URL: http://gcc.gnu.org/

\$3\$1\$i\$N%Q%C%1!<%8\$,! "%7%9%F% ‘\$NI8=‘E*\$J%C%#1%/%H%j (/usr, /usr/local Ey) 2<\$K@5\$7
\$/%\$%s%9%H!<%k\$5\$1\$F\$ \$k\$H! "OpenRTM-aist \$N%3% s% Q% \$%k\$*h\$S%\$%s%9%H!<%k:r6 9,\$h\$j%9
% ‘!<: \$K\$G\$-\$k\$G\$7\$g&! #I8=‘\$N%G%#1%/%H%j\$H\$O! "%3%^%s%I! "%X%C%@! "%i%\$%V%i%j\$=\$1\$>\$1\$N
%\$%s%9%H!<%k\$,2<5 \$N%G%#1%/%H%j\$K\$5\$1\$F\$ \$k\$H\$ \$ \$&\$3\$H\$G\$9! #

! | I 8= '% % s% 9% H! <% k% G% #% 1% /% H% j

```
%3%^%s%I      /usr/bin, /usr/local/bin
%X%C%@         /usr/include/package_name, /usr/local/include/package_name
%i%$%V%i%j     /usr/lib, /usr/local/lib
```

:G6 4N Linux \$G\$O3F%G%#%9%H%j%Se! <% 7%g% s\$NI8= '%Q%C%1! <%8N '\$,! "/usr/ 0J2<\$N [bin|include|lib] \$K! "\$=\$10J30\$N UNIX 70 OS \$G\$O /usr/local/ \$"\$k\$ \$\$O /opt 0J2<\$N [bin|include|lib] \$N2<\$K% % s% 9% H! <% k\$ 5\$ 1\$F\$ \$ \$ k\$ 3\$H\$,B ?\$ \$\$H\$ *\$b\$ \$\$ ^\$ 9! #OpenRTM-aist \$O autoconf, automake \$r; MQ\$ 7\$F% % k% I\$ 5\$ 1\$ k\$N\$G! "> 5 0J3 0\$N> 3j\$K0MB8\$ 7\$F\$ \$ \$ k%Q% C %1! <% 8\$, % % s% 9% H! <% k\$ 5\$ 1\$F\$ \$ \$ k\$ 9g\$G\$b% % k% I2DG=\$G\$ 9\$,! "\$ "\$ ^\$ j? d> \$ 5\$ 1\$ ^\$;\$ s! #8e! 9\$N LIE]\$rHr\$ 1\$ k\$?\$ a\$K\$b! "I 8= 'E *\$J%G%#%1% /%H% j\$K3F< 8Q% C%1! <% 8\$ r% % s% 9% H! <% k\$ 7\$F\$ *\$ /\$ 3\$H \$r\$ *4+\$a\$ 7\$ ^\$ 9! #

\$ ^\$?! "debian GNU Linux \$d RedHat/Fedora \$J\$ I\$N%G%#%9%H%j%Se! <% 7%g% s\$G\$O! "> 5 \$N 0MB8%Q% C%1! <% 8N '\$O\$ 9\$G\$K deb %Q% C%1! <% 8\$d! "rpm %Q% C%1! <% 82=\$ 5\$ 1\$F\$ \$ \$ k\$N\$G! "\$=\$ 1\$ i\$ r% \$ % s% 9% H! <% k\$ 9\$ k\$ [\$ &\$, \$h\$ \$\$G\$ 7\$g\$ &! #

! | 0MB8%Q% C%1! <% 8\$NF~<j@h

```
debian GNU Linux  http://www.debian.org/distrib/packages $r; 2 H
                    ace - ! {, boost - ! {, omniORB - ! {, Python - ! {
RedHat/Fedora 70   http://rpmfind.net/ $r; 2 H
                    ace - ! {, boost - ! {, omniORB - ! {, Python - ! {
Vine Linux        http://vinelinux.org/ $r; 2 H
                    ace - !_, boost - !_, omniORB - !_, Python - ! {
FreeBSD           http://www.freebsd.org $r; 2 H
                    ace - ! {, boost - ! {, omniORB - ! {, Python - ! {
```

Vine Linux MQ ace, boost, omniORB (+ omniORBpy) \$K\$D\$ \$\$F\$O! "; Am8&\$GMQOU\$ 7\$F\$ \$ \$ ^\$ 9\$N\$G! "OpenRTM-aist \$N Web %Z! <% 8 (http://www.is.aist.go.jp/rt/) \$r; 2 7\$F2<\$ \$ \$ \$! #

2.2.2 %=! <% 9% 3! <% I\$NE83+

\$ ^\$:%=! <% 9% 3! <% I OpenRTM-aist-0.2.0.tar.gz \$rE,Ev\$J%G%#%1% /%H% j\$KE83+\$ 7\$ ^\$ 9! #< 4,\$N % [! <% 'G% #% 1% /%H% j\$G\$b9=\$ \$ \$ ^\$;\$ s\$ 7! "%=! <% 9% S% k% IMQ%G%#%1% /%H% j\$, \$ "\$ 1\$P\$=\$ 3\$G9T\$C\$F\$b 9=\$ \$ \$ ^\$;\$ s! #

\$?\$ @ \$ 7! "01HLE*\$K\$ 3\$ 10J8e\$N: n6 8O% % s% 9% H! <% k: n6 8r= |\$ \$\$F! "01HL% f! <% 6 (root 0J30) \$H \$ 7\$F9T\$C\$?\$ [\$ &\$, \$h\$ \$\$G\$ 7\$g\$ &! #

```
> tar xvzf OpenRTM-aist-0.2.0.tar.gz
> cd OpenRTM-aist-0.2.0
```

2.2.3 %S%k%I

OpenRTM-aist \$O%Q%C%1! <%8\$N%S%k%I\$K autoconf, automake \$r; MQ\$ 7\$F\$ \$\$ ^\$ 9\$N\$G! "%S%k %I\$O! "B>\$N autoconf, automake \$r; MQ\$ 7\$?%Q%C%1! <%8\$HF 1MM\$K9 T\$ &\$ 3\$H\$, \$G\$ -\$ ^\$ 9! # \$?\$ 0\$ 7! " ORB \$r; Øj\$ 9\$ k% *%W% 7%g% s\$OI, ? \ \$G\$ 9\$N\$GI, \$, \$; Øj\$ 7\$F\$ /\$ 0\$ 5\$ \$! #

```
> ./configure [options]
```

```
./configure $KM?$ ($k$ 3$H$N$G$ -$k% *%W% 7%g% s$N0 LI t$ r0J2 <$K< $ 7$ ^$ 9! #
```

2.2.3.1 ;HMQ\$ 9\$k ORB \$N; XDj

" (8=:_\$OomniORB \$ 7\$ +%5%]! <%H\$ 5\$ 1\$F\$ \$\$ ^\$;\$ s! #B>\$N% *%W% 7%g% s\$O> Mh\$N\$?\$ a\$KM=L s\$ 5\$ 1 \$F\$ \$\$ ^\$ 9! #D I2C% *%W% 7%g% s\$H\$ 7\$FORB \$,% %s% 9% H! <%k\$ 5\$ 1\$F\$ \$\$ k%G% #% 1% /%H% j\$ r =dir \$NI tJ, \$K; Øj\$ 9\$ k\$ 3\$H\$, \$G\$ -\$ ^\$ 9! #

! | ORB \$NA *Br% *%W% 7%g% s

```
--with-omniorb=dir ORB $K omniORB $r; MQ$ 7$ ^$ 9! #
--with-tao=dir ORB $K TAO $r; MQ$ 7$ ^$ 9! #
--with-mico=dir ORB $K MICO $r; MQ$ 7$ ^$ 9! #
--with-orbix=dir ORB $K Orbix/E $r; MQ$ 7$ ^$ 9! #
--with-orbacus=dir ORB $K ORBacus $r; MQ$ 7$ ^$ 9! #
```

2.2.3.2 %5%]! <%H\$ 9\$k8 08 1\$N; XDj

OpenRTM-aist \$G\$N%3% s%]! <%M% s% H3 +H/ \$O! "C++ +8 08 1\$G\$N3 +H/ \$rA0D s\$H\$ 7\$F\$ \$\$ ^\$ 9! #8=:_\$N \$H\$ 3\$m! "B>\$K%5%]! <%H\$ 9\$ k8 08 1\$O! "%9% /% j%W% H8 08 1\$G\$ "\$k Python \$N\$_%5%]! <%H\$ 7\$F\$ \$\$ ^\$ 9! # Python \$G\$N3 +H/ \$r9 T\$ &> Øg\$O! "% *%W% 7%g% s\$ r; Øj\$ 9\$ kI, MW\$, \$ "\$j\$ ^\$ 9! # \$3\$ 1\$ r; Øj\$ 7\$?> Øg\$O Python \$N3 +H/ 4D6 \$,% 7% 9% F% '\$K% \$% s% 9% H! <%k\$ 5\$ 1\$F\$ \$\$ J\$ 1\$ 1\$F\$ J\$ j\$ ^\$;\$ s! # \$ ^\$?! "Python \$N %P! <%8%g% s\$O2.2 0J> ØG\$ "\$kI, MW\$, \$ "\$j\$ ^\$ 9! #

Python \$, I8= 'E *\$J%G% #% 1% /%H% j0J3 0\$K% \$% s% 9% H! <%k\$ 5\$ 1\$F\$ \$\$ k> Øg\$O =dir \$K% \$% s% 9 %H! <%k@h\$N%G% #% 1% /%H% j\$ r; Øj\$ 7\$F\$ /\$ 0\$ 5\$ \$! #G% #% 1% /%H% j\$N; Øj\$N; E }\$O Python.h \$,

```
python_dir/python2.x/Python.h $K$ "$k> 9g! "--with-python=python_dir $N$h$&$K; 8j$ 7
$ ^$ 9! #
```

```
! | %5% ]! <%H$ 9$ k8 @8 l$ NA *Br% *%W% 7%g% s
```

```
--with-python=dir Python 8 @8 l$ N% $% s% ?! <%U% '!' <%9$ rD s6 $ 7$ ^$ 9! #
```

2.2.3.3 gcc3.x 0JA0\$N% 3% s%Q% \$% i! Jgcc2.95.x Ey! K\$r; HMQ\$ 9\$ k> l9g

```
:G6 $ ^$ G; MQ$ 5$ l$ F$ $ $ ? gcc-2.95.x $ J$ I! "%P! <%8% g% s 3 L $K~$N gcc $G$ O% F% s% W% l! <%H! &% /% i
%9$ N% $% s% 9% ?% s% 9@ 8@ . $N? <$ 5$ ,? <$ 9$ . $k> 9g$ K% 3% s% Q% $% k% (%i! <$K$ J$ k> 9g$ , $ "$ j$ ^$ 9! # $ 3$ N
$ ?$ a! "$ 3$ l$ r2 sHr$ 9$ k% *%W% 7%g% s (-ftemplate-depth-n) $ r; 8j$ 7$ F$ 3$ l$ r2 sHr$ 7$ J$ l$ l$ F$ J
$ j$ ^$ ;$ s! #gcc-2.95.x $ J$ I$ N% 3% s% Q% $% i$ r; MQ$ 9$ k> 9g$ O! "0J2 <$N% *%W% 7%g% s$ r; 8j$ 9$ k$ 3$ H
$ G$ 3$ N% 3% s% Q% $% i% *%W% 7%g% s$ r< F OE *$ K$ D$ $ $ +$ 7$ ^$ 9! #
```

```
! | %3% s% Q% $% i$ NA *Br% *%W% 7%g% s
```

```
--with-gcc2 %3% s% Q% $% i$ K gcc-2.x $ r; MQ$ 9$ k! #
```

2.2.3.4 ACE include %Q% 9, lib %Q% 9

```
ACE $ , I 8= 'E *$ J% G% #% l% /% H% j$ K% $% s% 9% H0 l% k$ 5$ l$ F$ $ $ J$ $> 9g0 J2 <$N% *%W% 7%g% s$ G$ X% C% @ $ H
% i% $% V% i% j$ N% G% #% l% /% H% j$ r; 8j$ 7$ F2 <$ 5$ $! #
```

```
! | ACE %X% C% @% i% $% V% i% j% G% #% l% /% H% j; XD j% *%W% 7%g% s
```

```
--with-ace-includes=dir ACE $N% X% C% @% G% #% l% /% H% j$ r; 8j$ 7$ ^$ 9! #
```

```
--with-ace-lib=dir ACE $N% i% $% V% j% G% #% l% /% H% j$ r; 8j$ 7$ ^$ 9! #
```

```
ACE $ O% =! <%9% 3! <% I$ N% "!" <%+ % $% V$ rE 83 +$ 9$ k$ H ACE_wrappers $H$ $ $ &$ G% #% l% /% H% j$ r: n@ .
$ 7$ ^$ 9! # %X% C% @5 $S% i% $% V% i% j$ O$ I$ A$ i$ b$ O ACE_wrappers/ace 0J2 <$KE 83 +! "$ ^$ ?$ O: n@ . $ 5$ l
$ ^$ 9! # ACE_wrppers $ , 2 >$ K /tmp/src/ACE_wrappers $K$ "$k> 9g! "0J2 <$N$h$&$K; 8j$ 7$ ^$ 9! #
```

```
./configure ... --with-ace-include=/tmp/src/ACE_wrappers \
--with-ace-libs=/tmp/src/ACE_wrappers/ace ...
```

```
$ 3$ 3$ G! "Cm0U$, I, MW$ J$ N$ O! "ACE $N% X% C% @72$ O #include "ace/ACE.h" $H$ $ $ &$ h$ &$ K% 5% V
% G% #% l% /% H% j ace $ r2 >D j$ 7$ F; 2 89$ k$ ?$ a! "/tmp/src/ACE_wrappers $ r; 8j$ 7$ J$ l$ l$ F$ J$ i
$ J$ $ $ H$ $ $ &$ 3$ H$ G$ 9! # $ 3$ l$ KBF$ 7$ F! "% i% $% V% i% j% G% #% l% /% H% j$ O% i% $% V% i% j$ , $ "$ k% G% #% l% /% H
% j$ rD >@ \; 8j! "$ D$ ^$ j /tmp/src/ACE_wrappers/ace $ r; 8j$ 9$ kI, MW$, $ "$ k$ H$ $ $ &$ 3$ H$ G$ 9! #
```

2.2.3.5 \$=\$NB>

```
$=$NB>; MQ2DG=$J%*%W% 7%g% s$O--help %*%W% 7%g% s$G; 2 8 7$F2<$5$ $! #
```

```
> ./configure --help
```

2.2.4 configure, make

```
% 7% 9% F% '$N4D6 $KE,$ 7$ ?%*%W% 7%g% s$r; 8j$ 7$F! "configure $r2<$N$h$&$K< BT$ 7$^$9! #: 8e
$K! "$ I$N$h$&$J% 3% s% Q% $% k%*%W% 7%g% s$ ,; 8j$ 5$ 1$ k$ +$, I<= $ 5$ 1! "Makefile, %X% C% @ "0MB84X78
$N% U% !% $% k$ r@ 8@ . $ 7$ F= *N; $ 7$ ^$ 9! #configure $r9T$ C$ ?8e$ O configure $ ,@5> 8K= *N; $ 7$ ?$ 3
$H$ r3NG '$ 7$ F2<$5$ $! #
```

```
> ./configure --with-omniorb --with-python
: (CfN,)
```

```
-----
OpenRTM-aist will be compiled with the following environment.
```

```
-----
CXX: g++
CPPFLAGS: -I/usr/local/include -I/usr/local/include \
          -I/usr/local/include -I/usr/local/include
CXXFLAGS: -I/usr/local/include -O
BUILD_CFLAGS:
BUILD_CPPFLAGS:

LD: /usr/bin/ld
LIBS: -lpthread -lace -lboost_regex -lomniORB4 -lomnithread -lomniDynamic4
LDFLAGS: -L/usr/local/lib -L/usr/local/lib -L/usr/local/lib
LDSOLIBS: -lace -lboost_regex -lomniORB4 -lomnithread -lomniDynamic4

ORB: omniorb
IDLC: /usr/local/bin/./bin/omniidl
IDL_FLAGS: -bcxx -Wba -nf
```

```
WRAPPERS:
-----
```

```
configure: creating ./config.status
config.status: creating Makefile
: (CfN,)
config.status: creating rtm/config_rtc.h
config.status: executing depfiles commands
```

```
config.status: executing depfiles commands $,: 8e$K< BT$ 5$ 1$ F$ $ $J$ 1$ 1$ P! "config-
ure $K< 8T$ 7$ F$ $ $ ^$ 9! # $ b$ 7! "% (%i! <$dWarning $ ,=F$ F$ $ $ k> 8g$ O config.log $r8 +$F860x$ r
F CD j$ 7$ FBP=h$ 7$ F$ /$ @ $ 5$ $! # $ ?$ $ $ F$ $ $ O! "0MB8% Q% C% 1! <% 8$ ,% $% s% 9% H! <% k$ 5$ 1$ F$ $ $ J$ $! "% $% s
% 9% H! <% k$ 5$ 1$ F$ $ $ k$ ,% X% C% @ $ d% i% $% V% i% j$ ,8 +$ D$ +$ i$ J$ $ $ J$ I$ NM }M3$ ,B ?$ $ $ h$ &$ G$ 9$ N$ G! "% *
% W% 7% g% s$ r$ h$ /D 4$ Y$ F$ _$ F$ /$ @ $ 5$ $! #
```

```
configure $,@5> $K=*N;$ 7$ ?; $r3NG '$ 7$ ?$ i make $ r9 T$ $$ ^$ 9! #? tJ,$ +$ i==? tJ,DxE Y$ G% S% k
% I$ ,4QN;$ 7$ ^$ 9! #
```

```
> make
```

```
:F5 B*$KA4$F$N%G%#%1%/%H% j$ r% S% k% I$ 7$ ^$ 9! #% $% s% 9% H! <%k$ 9$ k$ ?$ a$ K$ O> $ J$ /$ H$ b2 <5 $N
%G%#%1%/%H% j$ ,@5> $K% S% k% I$ 5$ 1$ F$ $$ kI,MW$,$ "$ j$ ^$ 9! #
```

```
! | OpenRTM %G%#%1%/%H% j9=@.
```

OpenRTM-aist-0.2.0/rtm	RT %3% s%]! <%M% s% H% U% 1! <% 'o! <%/
OpenRTM-aist-0.2.0/rtm/idl	RT %3% s%]! <%M% s% HIDL
OpenRTM-aist-0.2.0/util/rtm-config	RTM %3% s% U% #% .% e% 1! <% 7% g% s% D! <% k
OpenRTM-aist-0.2.0/util/rtm-naming	RTM %M! <% _% s% 0% 5! <% S% 9% i% C% Q
OpenRTM-aist-0.2.0/util/rtc-template	RTC %F% s% W% 1! <% H% D! <% k
OpenRTM-aist-0.2.0/util/rtc-link	%3% s%]! <%M% s% HA':nGUI

```
%S%k% I$ ,@5> $K=*N;$ 7$ ?$ i! "%X% C% @% U% !% $% k! "% i% $% V% i% j! "% f! <% F% #% j% F% #% 3% ^% s% I72! "% I
%-% e% a% s% H$ r% $% s% 9% H! <%k$ 7$ ^$ 9! # 7% 9% F% 'G%#%1%/%H% j(/usr $d /usr/local) $X% $% s% 9% H! <
%k$ 9$ k$ K$ Oroot $K$ J$ kI,MW$,$ "$ j$ ^$ 9! #
```

```
> su
# make install
```

```
root $K$ J$ C$ F make install $H$ 9$ k$ H! "%X% C% @N '$ a% i% $% V% i% j$ ,% 7% 9% F% '$N%G%#%1%/%H% j$ K
%$% s% 9% H! <%k$ 5$ 1$ ^$ 9! #
```

2.2.5 %5% s% W% k\$ N% F% 9% H

```
%$% s% 9% H! <%k$ ,@5> $K=*N;$ 7$ ?$ i! "example/SimpleIO 0J2 <$N%5% s% W% k$ G% F% 9% H$ r9 T$ C$ F$ *
$ /$ H$ h$ $$ G$ 7$ g$ & # $ 3$ N%5% s% W% k$ O! "%3% s% =! <%k$ +$ iF~NO$ 5$ 1$ ?? tCM$ r=ENO$ 9$ k% 3% s% ]! <%M% s
% H$ H< $1< $C$ ?? tCM$ r% 3% s% =! <%k$ KI =< $ 9$ k% 3% s% ]! <%M% s% H$ r< B T$ 7! " @ \B 3$ 9$ k$ @ $ 1$ N4 JC 1$ J
%5% s% W% k$ G$ 9! #
```

```
> cd examples/SimpleIO/
> run.sh
```

```
run.sh $G$ O% ?! <% _% J% k% &% $% s% I% &$ H$ 7$ F kterm $ r2 >D j$ 7$ F$ $$ ^$ 9! # $ b$ 7! "kterm $ G$ O$ J$ /
B>$N%?! <% _% J% k% &% $% s% I% &$ r; MQ$ 7$ F$ $$ k> $ g$ K$ O! "< B T% 7% 'k% 9% /% j% W% H run.sh $ rE,5 $ q
$ -4 9$ ($F< B T$ 7$ F$ /$ @ $ 5$ $! #
```

```
$O$8$a$K2hLLkterm $,2 $D3+$-! "?tIC8e$K$b$&$F$H$D3+$-$^$9! #B $DL\$Nkterm $,3+$/$^$G! "
I,$:Bt$C$F$/$@5$ $! #&%$%I%&%?%$H%k$K ConsoleIn $H$"$kJ}$G?t; $rBG$A9~$$_$^$9! #F~NO$9
$k?t; $O! "long int $K< $^$KH00O$N? tCM$ rF~NO$ 7$F$/$@5$ $! #?t; $rBG$A9~$ '$H! "ConsoleOut
$H%&%$%I%&%?%$H%k$N$"$kJ}$+$i! "F~NO$ 7$ ?$N$HF1$8?t; $H; 9o (sec:nsec $N%U%)! <%^C%$H$K
$J$C$F$ $$k) $,8=$1$^$9! #3$3$^$G$G-$1$P! "OpenRTM-aist $N%a%$%s$N%i%$%V%i%j libRTC.so
$,@5$ 7$/%S%k%I$5$1$F$ $$k$3$H$, $o+$j$^$9! #
```

2.2.6 %3% s%]! <%M% s% H\$N%F% s%W% l! <%H\$N%F% 9%H

```
< $K! "%3% s% ]! <%M% s% H$N%F% s%W% l! <%H% 8% '%M% l! <% ?$r; MQ$ 7$F! "4JC1$J%3% s% ]! <%M% s% H$r: n@ .
$9$k%F%9%H$r9T$ $$^$9! #F% s%W% l! <%H% 8% '%M% l! <?rtc-template $r; MQ$ 7$^$9! #3% s% ]! <%M
% s% H$r: n@ . $9$k%G% $%1%/%H% j (G$0U$N%G%#%1%/%H% j$G7k9=$G$9! #) $r: n@ . $7$F! "$=$3$G%3% s% ]! <
%M% s% H$r: n@ . $7%3% s%Q% $%k$ 7$F$_$^$9! #
```

```
> cd [%3% s% ]! <%M% s% H$r: n@ . $9$k%G%#%1%/%H% j]
> mkdir SampleComponent
> cd SampleComponent
```

```
$^$: $O! "rtc-template $N%X%k%W$r8+$F$_$^$9! #
```

```
> rtc-template --help
```

```
Usage: rtc-template [OPTIONS]
```

```
Options:
```

<code>--help</code>	Print this help.
<code>--c++</code>	Generate C++ template code.
<code>--python</code>	Generate Python template code.
<code>--output[=output_file]</code>	Output base file name.
<code>--module-name[=name]</code>	Your module name.
<code>--module-desc[=description]</code>	Module description.
<code>--module-version[=version]</code>	Module version.
<code>--module-author[=author]</code>	Module author.
<code>--module-category[=category]</code>	Module category.
<code>--module-comp-type[=component_type]</code>	Component type.
<code>--module-act-type[=activity_type]</code>	Component's activity type.
<code>--module-max-inst[=max_instance]</code>	Number of maximum instance.
<code>--module-lang[=language]</code>	Language.
<code>--module-inport[=PortName:Type]</code>	InPort's name and tyoe.
<code>--module-outport[=PortName:Type]</code>	OutPort's name and type
:	
CfN,	
:	

```
Example:
```

```
rtc-template --c++ --module-name=Sample --module-desc='Sample component' \
--module-version=0.1 --module-author=DrSample --module-category=Generic \
--module-comp-type=COMMUTATIVE --module-act-type=SPORADIC \
--module-max-inst=10 \
--module-inport=Ref:TimedFloat --module-inport=Sens:TimedFloat \
--module-outport=Ctrl:TimedDouble --module-outport=Monitor:TimedShort
```

```
rtc-template $K: n@ . $7$ ?$ $%3% s% ]! <%M% s% H$N@_Dj$r0z?t$H$ 7$FEC$9$H! "%3% s% ]! <%M% s% H$N
```

?w7A\$N%3!<%I\$ r:n@.\$ 7\$ ^\$9! #3\$3\$G\$O! "help \$NI=< \$N: G8e\$K8=\$1\$?"Example:" 0J2<\$r%3%T!<
\$ 7\$F; \$ 7\$F\$ _\$ ^\$9! #

```
> rtc-template --c++ --module-name=Sample --module-desc='Sample component' \
--module-version=0.1 --module-author=DrSample --module-category=Generic \
--module-comp-type=COMMUTATIVE --module-act-type=SPORADIC \
--module-max-inst=10 \
--module-inport=Ref:TimedFloat --module-inport=Sens:TimedFloat \
--module-outport=Ctrl:TimedDouble --module-outport=Monitor:TimedShort
Sample.h was generated.
Sample.cpp was generated.
SampleComp.cpp was generated.
Makefile.Sample was generated.
> ls
Makefile.Sample      Sample.h
Sample.cpp            SampleComp.cpp
```

\$3\$N\$h\$&\$K! "%3%\$%!<%M%\$H\$N C++\$N%=<%9%3!<%I\$H Makefile (Makefile.Sample) \$,:n@.
\$5\$1\$ ^\$9! #: n@.\$5\$1\$?%=<%9%3!<%I\$O\$3\$N Makefile \$r\$=\$N\$ ^\$ ^\$G%\$%k% I\$G\$-\$ ^\$9! #

```
> make -f Makefile.Sample
$b$ 7$ /$O
> mv Makefile.Sample Makefile
> make
```

\$N\$h\$&\$K!"make \$N -f %*%W%7%G\$s\$r; MQ\$7 Makefile.Sample \$rD>@\\\$7\$F\$\$\$9\$k\$+!"
Makefile.Sample \$r Makefile \$K%j%M!<% '\$7\$F make \$7\$ ^\$9! #

```
> make -f Makefile.Sample
rm -f Sample.o
g++ 'rtm-config --cflags' -c -o Sample.o Sample.cpp
:
CfN,
:
g++ 'rtm-config --libs' -o SampleComp Sample.o SampleComp.o
rm -f Sample.so
g++ -shared 'rtm-config --libs' -o Sample.so Sample.o
> ls
Makefile.Sample  Sample.h  Sample.so*  SampleComp.cpp
Sample.cpp       Sample.o  SampleComp* SampleComp.o
```

\$3\$1\$G! "%m!<(%V%k%b%8%e!<%KHG\$N%3%\$%!<%M%\$H(Sample.so) \$H< BT7A< 0N%3%\$%!<%M%\$
%H(SampleComp) \$,:n@.\$5\$1\$ ^\$7\$?! #3\$3\$G! "< BT7A< 0N%3%\$%!<%M%\$H\$r< BT\$ 7\$F\$ _\$ ^\$9! #3
%\$%!<%M%\$H\$N< BT\$K\$O%3%\$U%#% .e%l!<%7%G%\$U%!\$%k(DL> \$O rtc.conf \$H\$\$\$&L>A0) \$,I,
MW\$G\$9! #3\$3\$G\$O! "4J0WHG\$N\$b\$N\$r%+%1%\$H%G%#%1%/%H%j\$K:n@.\$ 7\$ ^\$9! #

```
> cat > rtc.conf
NameServer      8=:_$NPC $N% [%9%HL>:%]!<%HV9 f
^D (Ctrl+D)
```

```
$ 3$ 3$G$ O! "2>$K% [%9%HL>! 'rtm.or.jp! " %]! <%HV9 f6789 $H$ 7$ ^$ 9! #rtm.or.jp $O: #: r6 8 7$F$ $
$k% [%9%HL>$KF I$ _BX$ ($F$ /$ @5$ $! #
```

```
> cat > rtc.conf
NameServer      rtm.or.jp:6789 ($ 3$N$h$ &$KF ~NO$ 9$k)
^D (Ctrl+D)
> cat rtc.conf (3NG')
NameServer      rtm.or.jp:6789
```

```
< $K! "CORBA $N%M! <_%s%0%5! <%S%9$r5 7'0$ 7$ ^$ 9! #CORBA $N%M! <_%s%0%5! <%S%9$O! "
```

```
> rtm-naming %]! <%HV9 f
```

```
$G5 7'0$G$-$ ^$ 9$N$G! "@h$ [$I rtc.conf $G; 8j$ 7$ ?%]! <%HV9 f$r; 8j$ 7$F5 7'0$ 7$ ^$ 9! #
```

```
> rtm-naming 6789
Starting omniORB omniNames: ichi:9999
n-ando@ichi:/tmp/SampleComponent>
Fri Oct 29 17:12:51 2004:

Starting omniNames for the first time.
Wrote initial log file.
Read log file successfully.
Root context is IOR:010000002b00000049444c3a6f6d672e6f72672f436f734e616d696e672f
4e616d696e67436f6e746578744578743a312e30000001000000000000060000000010102000e00
00003135302e32392e39362e313638000f270b0000004e616d655365727669636500020000000000
0000080000000100000000545441010000001c000000010000000100010001000000010001050901
01000100000009010100
Checkpointing Phase 1: Prepare.
Checkpointing Phase 2: Commit.
Checkpointing completed.
```

```
< $K! "%3%s%]! <%M%s%H$r5 7'0$ 7$ ^$ 9! #
```

```
> SampleComp -f rtc.conf
```

```
$ 3$ 1$G! "%3%s%]! <%M%s%H$,5 7'0$G$-$ ^$ 7$ ?! #3$NCJ3,$ ^$G$G$-$ 1$P! "OpenRTM-aist $,@5> o
$k% $%s%9%H! <%k$ 5$ 1$ ?$ 3$H$K$J$ j$ ^$ 9! #
```

2.3 RTCLink \$K\$h\$kF0:n3NG'

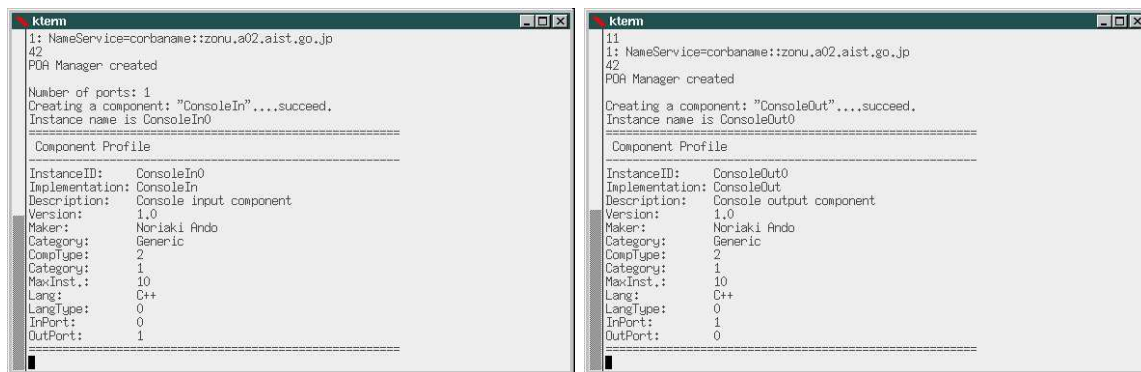
A0=R\$N SimpleIO %5% s%W%k\$G\$O! "%3% s%]! <%M% s%H%N5 F'0! &@ \B3\$ r@ \B3@ lMQ\$NUL%W% m%0% i% '\$G 9T\$ \$\$ ^\$ 7\$?! # \$ 7\$ +\$ 7\$ J\$, \$ i! "3 +H/CJ3 , \$ GMM! 9\$ J%3% s%]! <%M% s%H%r? ' ! 9\$ HAH\$ _9 g\$ o\$; \$ F%F%9% H\$ 9 \$ k\$ K\$ O! "%W% m%0% i% '\$ @ \B3\$ J\$ I\$ r9 T\$ &\$ N\$ CH\$ > \$ KHQ; \$ K\$ J\$ j! "RT %3% s%]! <%M% s%H%N% a% j% C% H\$ r @8\$ +\$; \$ ^\$; \$ s! #OpenRTM-aist \$K\$O! "%3% s%]! <%M% s%H%N5 F'0! &@ \B3\$ J\$ I\$ r9 T\$ &\$?\$ a\$ NGUI %D! < %k (RTCLink) \$,MQO U\$ 5\$ 1\$ F\$ \$ \$ ^\$ 9! #

\$3\$3\$G\$O! "RTCLink \$r; MQ\$7\$F! "A0=R\$N ConsoleIn, ConsoleOut %3% s%]! <%M% s%H% r@ \B3\$ 7%F %9% H\$ 9\$ kJ)K ! \$ r@ kL @ \$ 7\$ ^\$ 9! #RTCLink \$N> \$ 7\$ \$; MQJ)K ! \$ K\$ D\$ \$ \$ F\$ O8 @ =R\$ 9\$ k! v4.1 RTCLink !W \$r; 2 H 7\$ F\$ /\$ @ \$ 5\$ \$! #

2.3.1 A':n<j=g

\$ ^\$:! "RTCLink \$r5 F'0\$ 7\$ ^\$ 9! #5 F'0J)K ! \$O! "%3% s% =! <%k> \$G vrtc-link! W\$ H\$ ~NOC\$ 9\$ k\$ @ \$ 1\$ G\$ 9! #

SimpleIO \$N%G%#%1%/%H%j\$NCf\$N! "ConsoleInComp \$H ConsoleOutComp \$r\$=\$1\$>\$1JL\$N%&\$ %s%I%&\$G5 F'0\$ 7\$ ^\$ 9 (? ^ 2.1! "? ^ 2.2)! #

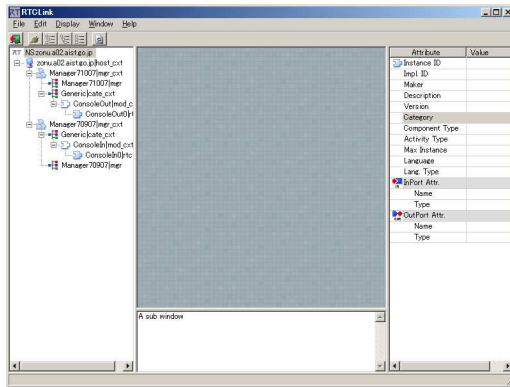


? ^ 2.1: ConsoleInComp \$N5 F'0

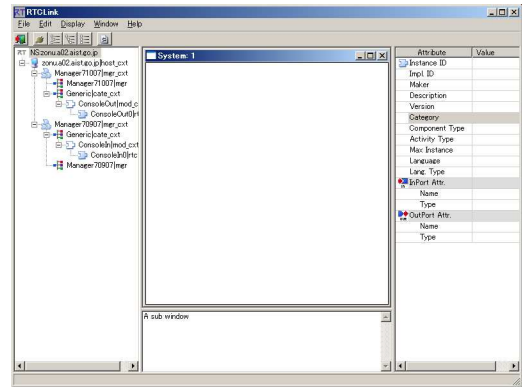
? ^ 2.2: ConsoleOutComp \$N5 F'0

< \$K! "RTCLink \$N: 8B&\$N%D%j! <%&\$%s%I%&\$r%/%j%C%/\$7\$F%D%j! <\$rE83+\$7\$ ^\$ 9! #D%D%j! <\$NCf \$K! "ConsoleIn %3% s%]! <%M% s%H%H! "ConsoleOut %3% s%]! <%M% s%H\$, \$ "\$ k\$ 3\$ H\$ r3NG '\$ 7\$ F\$ /\$ @ \$ 5\$ \$ (? ^ 2.3)! # %3% s%]! <%M% s%H\$ C \$N% "% \$ %3% s\$ GI < \$ 5\$ 1\$ F\$ \$ \$ ^\$ 9! #

\$5\$ i\$K! "%D! <%k%P! < \$N % % ?% s\$ r2 ! \$ 7\$ F% 7% 9%F% '%I% m! <%&\$%s%I%&\$rCfl { \$NI tJ , \$KI < (\$5\$; \$ ^\$ 9 (? ^ 2.4)! # \$3\$N%&\$%s%I%&\$NCf\$G%7%9%F% '\$r9=C [\$ 7\$ F\$ f\$ - \$ ^\$ 9! #

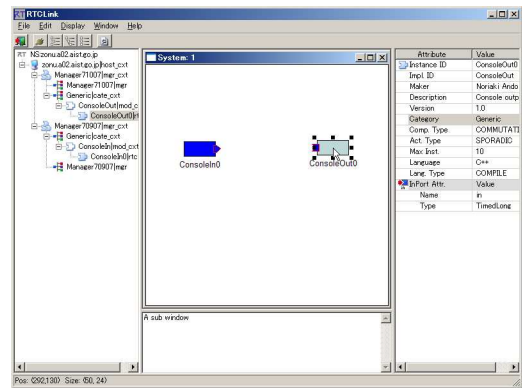
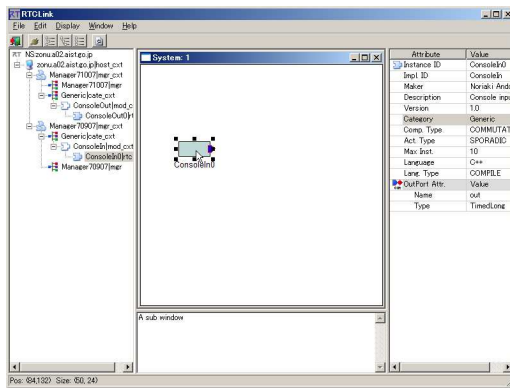


? ^ 2.3: %D% j! <\$NE83 +



? ^ 2.4: % 7% %F% 'I% m! <%% % \$ % I% &\$NI =< (

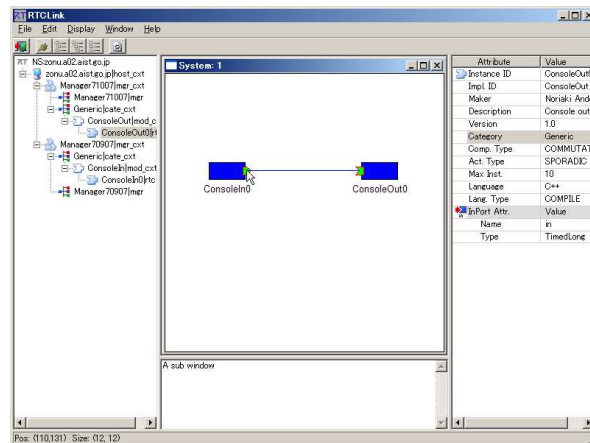
%D% j! <%% % \$ % I% &\$NC f\$ G \$N% "% \$ % 3% \$ \$ =< \$ 5\$ l\$ F ConsoleIn \$H ConsoleOut \$N% 3% %]! <
%M% s% H\$ r% 7% %F% 'I% m! <%% % \$ % I% &\$X% I% i% C% 0% "% s% I% I% m% C% W\$ 7\$ ^ \$ 9! #



? ^ 2.5: ConsoleIn %3% %]! <%M% s% H\$ NG [CV

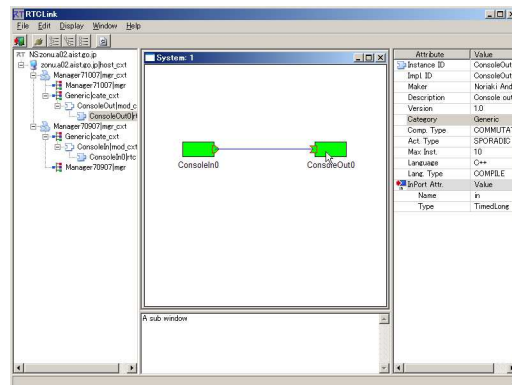
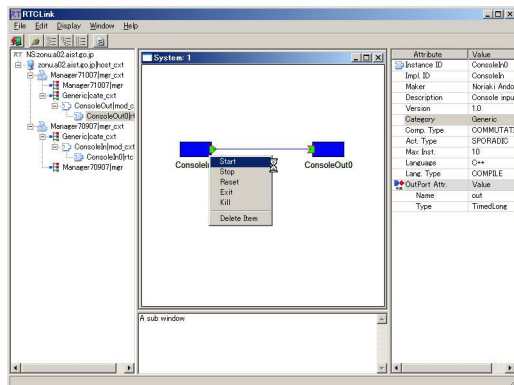
? ^ 2.6: ConsoleOut %3% %]! <%M% s% H\$ NG [CV

? ^ 2.7 \$N\$H\$ &\$K ConsoleOut %3% %]! <%M% s% H\$ N OutPort \$r% /% % C% /\$ 7! 'ConsoleIn %3% %]! <%M%
% s% H\$ N InPort \$X% I% i% C% 0\$ 7\$ ^ \$ 9! # 3\$ l\$ G! 'ConsoleOut %3% %]! <%M% s% H\$ N OutPort \$H ConsoleIn
%3% %]! <%M% s% H\$ N InPort \$, @ \B 3\$ 5\$ l\$ ^ \$ 9! #



? ^ 2.7: InPort \$H OutPort \$N @ \B 3

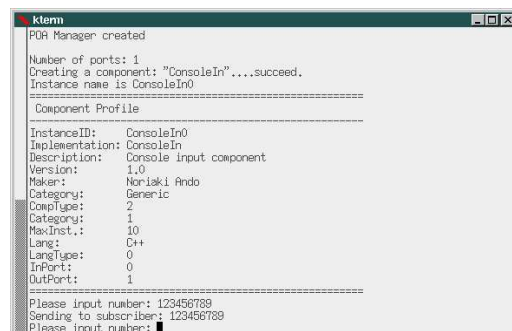
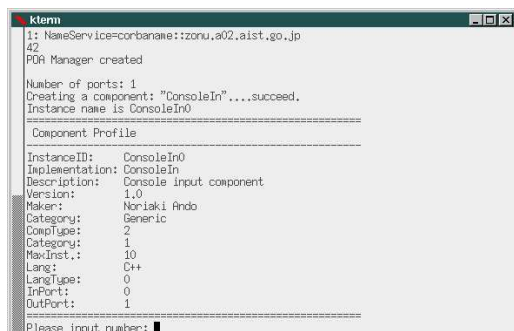
< \$K! "% 7%9%F% ' %I% m! <%&% \$%s% I%&> \$N ConsoleIn %3% s%]! <%M% s%H% r1 &% /% j% C% /\$ 7% 3% s%F% - %9% H% a% K% e! <\$ r= P\$ 7\$ ^\$ 9! #vStart! W\$ rA *Br\$ 9\$ k\$ H ConsoleIn %3% s%]! <%M% s%H% ,% 9% ?! <%H\$ 7\$ ^\$ 9 (? ^ 2.8)! #F 1MM\$ K ConsoleOut %3% s%]! <%M% s%H% 3% s%]! <%M% s%H% b% 9% ?! <%H\$ 5\$;\$ ^\$ 9 (? ^ 2.9)! #



? ^ 2.8: ConsoleIn \$N% 9% ?! <%H

? ^ 2.9: ConsoleOut \$N% 9% ?! <%H

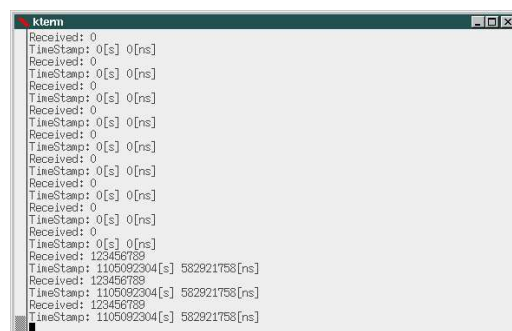
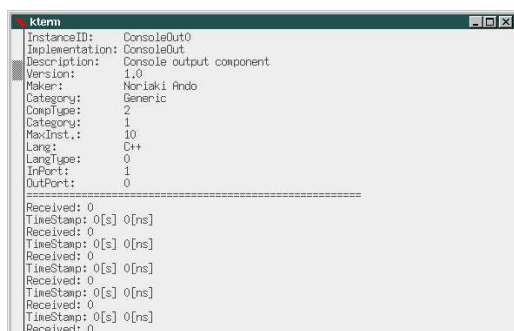
ConsoleIn %3% s%]! <%M% s%H% r% 9% ?! <%H\$ 5\$;\$ k\$ H? ^ 2.10 \$N\$ h\$ &\$ K? tCM\$ NF~NO\$ r5 \$a\$ F\$ - \$ ^\$ 9! # E,Ev\$ J? tCM\$ rF~NO\$ 7\$ ^\$ 9! #F~NO\$ 9\$ k? tCM\$ O long int 7? \$KF~NCHOO\$ N? tCM\$ K\$ 7\$ F\$ /\$ @ \$ 5\$ \$! # \$ 3\$ 3 \$GF~NO\$ 7\$?? tCM\$,! "ConsoleOut %3% s%]! <%M% s%H% XAw\$ 1\$ 1\$ FI <= \$ 5\$ 1\$ ^\$ 9! #



? ^ 2.10: ConsoleIn \$N% 9% ?! <%HD>8e

? ^ 2.11: ConsoleIn \$K? tCM\$ rM? \$ (\$k

ConsoleOut %3% s%]! <%M% s%H% N\$ [\$ &\$ G\$ O! "?" ^ 2.12 \$N\$ h\$ &\$ K% 9% ?! <%HD>8e\$ +\$ i? tCM\$ H; 9 o\$,=P NO\$ 5\$ 1\$ ^\$ 9\$,! "ConsoleIn \$X\$ NF~NO\$, \$J\$ 4V\$ O0 \$ rI <= \$ 7B3\$ 1\$ ^\$ 9! #ConsoleIn \$X? tCM\$ rF~NO\$ 9 \$k\$ H! "\$=\$ N? tCM\$,? ^ 2.13 \$N\$ h\$ &\$ KI <= \$ 5\$ 1\$ ^\$ 9! #



? ^ 2.12: ConsoleOut \$N% 9% ?! <%HD>8e

? ^ 2.13: ConsoleOut \$G? tCM\$,I <= \$ 5\$ 1\$ k

\$ 3\$ 1\$ i\$,@ 5> \$KF 0:n\$ 9\$ 1\$ P! "OpenRTM-aist \$ Q@ 5> \$KF 0:n\$ 7\$ F\$ \$\$ k\$ 3\$ H\$ K\$ J\$ j\$ ^\$ 9! #

2.4 Windows 70% 7% 9% F% ‘\$ G\$ N% S% k% I\$ H% \$% s% 9% H! <% k

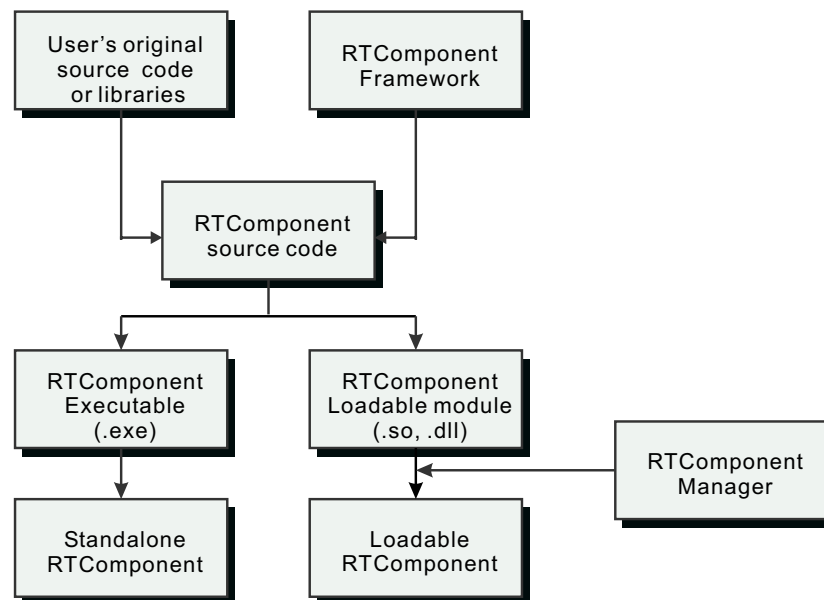
> MhE *\$ K\$ QBP1 ~\$ 9\$ kM=D j\$ G\$ 9\$,! "8=: _\$ OL\$ BP1 ~\$ G\$ 9! #

Bh3>0 RT %3% s%]! <%M% s%H%W%m% 0% i%_ % s% 0

3.1 RT %3% s%]! <%M% s%H%W%m% 0% i%_ % s% 0

OpenRTM-aist \$O! "%3% s%]! <%M% s%H%W%m% 0% i%_ % s% 0 \$,; }
\$D4 {B8\$N%=%U%H%&% (%"; ǻ ! "\$ \$k\$ \$\$O? 7\$?\$K: nđ . \$ 7\$?%=%U%H% (% "\$ rMF0W\$KRT %3% s%]! <%M% s%H%
2=\$9\$ k\$?\$ a\$N%U% 1! <% 'o! <% /\$ rD\$6 \$ 7\$ ^\$9! #

%3% s%]! <%M% s%H%W%m% 0% i%_ % s% 0 . \$NBg\$ ^\$ +\$ JN . \$ 1\$ O? ^ 3.1 \$N\$h\$ &\$K\$ J\$ j\$ ^\$9! #



? ^ 3.1: RT %3% s%]! <%M% s%H%W%m% 0% i%_ % s% 0

%3% s%]! <%M% s%H%W%m% 0% i%_ % s% 0 "4 {B8\$N%=%U%H%&% (%"; ǻ \$N% i% \$%V% i% j4X? t! &% /% i% 9% i% \$%V% i%
% jEy\$ r%3% s%]! <%M% s%H%W%m% 0% i%_ % s% 0 <% 'o! <% /\$ KKd\$ a9 ~\$ _%3% s%]! <%M% s%H%W%m% 0% i%_ % s% 0
\$G! "4 {B8\$N%=%U%H%&% (%"; ǻ ;\$ r%=%U%H%&% (% "I tI J\$ G\$ "\$kRT %3% s%]! <%M% s%H%W%m% 0% i%_ % s% 0
\$-! "MM! 9\$ J> 1L\$G: FMxMQ\$ 9\$ k\$ 3\$ H\$,=FMh\$ k\$ h\$ &\$K\$ J\$ j\$ ^\$9! #: nđ . \$ 5\$ 1\$?RT %3% s%]! <%M% s%H%W%m% 0% i%_ % s% 0 "
%M% C% H% o! <% /> ǻ NE, @Z\$ J> ǻ j\$ KG [CV\$ 7\$ F! "J,; ǻ *%V% 8% '% /% H\$ H\$ 7\$ F% M% C% H% o! <% /> ǻ NG\$0U\$N> 1
=j\$ +\$ iMxMQ\$ 9\$ k\$ 3\$ H\$, \$G\$ - \$ ^\$9! #

? ^ 3.1 \$K< \$9\$h\$ &\$K! "RT %3% s%]! <%M% s%H%W%m% 0% i%_ % s% 0 <% 'o! <% /\$ KB ' \$C\$F: nđ . \$ 5\$ 1\$?RT %3% s%]! <
%M% s%H%W%m% 0% i%_ % s% 0 - \$ /J, \$ 1\$ F2 \$ D\$ N< B T7A< ǻ N% P% \$%J% j%U% !% \$%k\$ H\$ 7\$ F: nđ . \$ 9\$ k\$ 3\$ H\$,=FMh\$ ^\$9! #9
% ?% s% I% "m% sRT %3% s%]! <%M% s%H%W%m% 0% i%_ % s% 0 (Standalone RTComponent) \$O! "C 10 1%U% !% \$%k\$ G\$ =N\$ ^\$ ^< B
9 T\$ G\$ - \$k< B T% P% \$%J% j7A< ǻ G\$ 9! #m! <% ǻ V% k% b% 8% e! <% kRT %3% s%]! <%M% s%H%W%m% 0% i%_ % s% 0 (Loadable Module
RTComponent) \$C\$ OE *\$K% m! <% I2DG=\$J% m! <% ǻ V% k% b% 8% e! <% k7A< ǻ N% P% \$%J% j%U% !% \$%k\$ G\$ 9! #RT
%3% s%]! <%M% s%H%W%m% 0% i%_ % s% 0 3\$ 1\$ i\$ N2 \$ D\$ N7A< ǻ G: nđ . ! "G [I [! "< B T\$ 9\$ k\$ 3\$ H\$, \$G\$ - \$ ^\$9! #

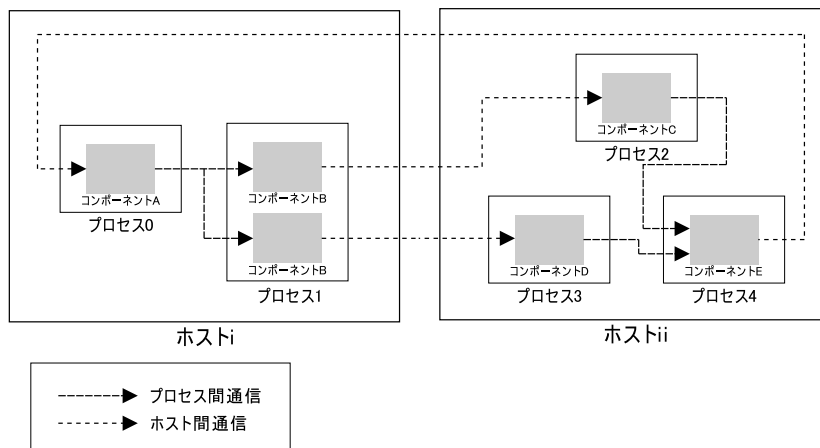
3.1.1 %3% s%]! <%M% s% H% N7ABV

> \$G\$b=R\$Y\$? \$h\$&\$K! "RT %3% s%]! <%M% s% H% O! "C1BN\$G< BT2DG=\$J! V%9%?% s% I% "%m% s RT %3% s%]! <%M% s% H (Standalone RTComponent) !W\$* \$h\$S! "F OE*\$K\$m! <% I\$5\$1< BT\$5\$1\$k! V\$m! <%@%V%k%b%8%e! <%kRT %3% s%]! <%M% s% H (Loadable Module RTComponent) !W\$N2 \$D\$N7A< @H\$7\$F@8 @.\$9\$k\$3\$H\$, \$G\$-\$^\$9! #V%9%?% s% I% "%m% s%3% s%]! <%M% s% H! W\$* \$h\$S! V\$m! <%@%V%k%b%8%e! <%k%3% s%]! <%M% s% H! W\$OJ2 <\$N\$h\$&\$JF CD '\$,\$ \$j\$^\$9! #

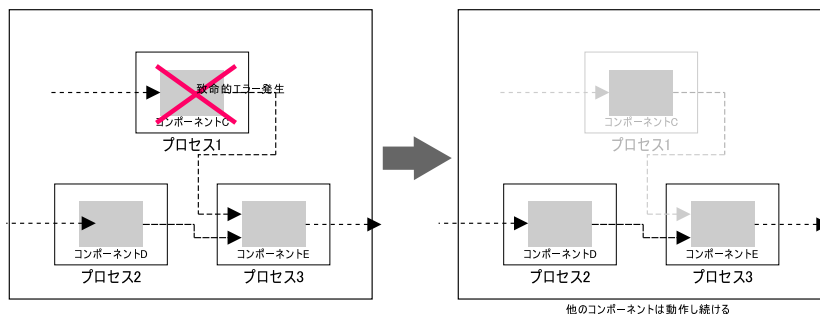
3.1.1.1 %9%?% s% I% "%m% s%3% s%]! <%M% s% H

C1BN\$G< BT2DG=\$J%F%\$%J%j7A< @N%3% s%]! <%M% s% H\$G\$9! #! %W% m%;%9\$K\$D\$-86B '\$H\$7\$F1 < N '\$N%3% s%]! <%M% s% H(J#?t\$N%\$%s%9%?%s%9\$r; \$D\$3\$H\$, \$G\$-\$k! #) \$KBFI ~\$7\$^\$9! #B>\$N%3% s%]! <%M% s% H\$H\$H\$NDL?.\$O CORBA 7M3\$G9T\$&\$?a! "B.EYE*\$K\$OI TMx\$G\$9\$,! "B>\$N%3% s%]! <%M% s% H\$, % (%i! <\$Cd; \$7\$F\$b! "1F6 A rH o\$ i\$J\$ \$\$?a0BD j@-\$G\$QM-Mx\$H\$J\$ j\$^\$9! #

\$^\$?! "%3% s%]! <%M% s% H\$N5 F0! "Dd; \$O%W% m%;%9\$N\$=\$l\$HF15 AG\$9\$N\$G! "B>\$N%3% s%]! <%M% s% H\$KL F6 A rM?\$ (\$k\$3\$H\$J\$/%W% m%;%9\$4\$H5 F0\$dDd; \$9\$k\$3\$H\$,=FMh\$^\$9! #



? ^ 3.2: %9%?% s% I% "%m% s%3% s%]! <%M% s% H

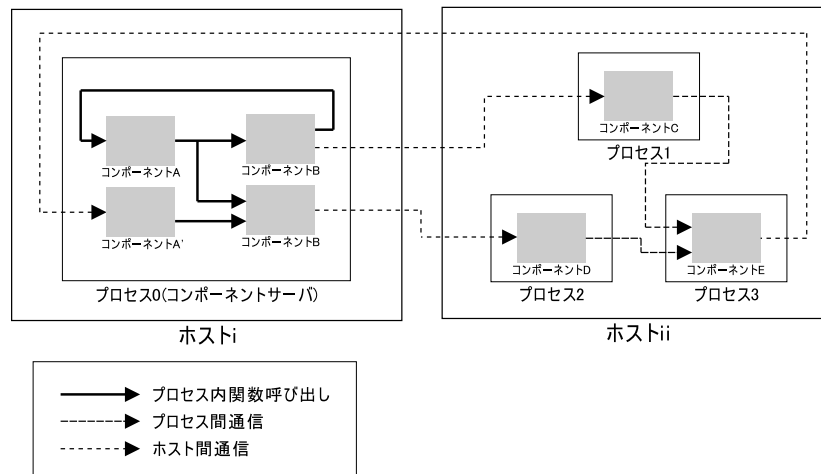


? ^ 3.3: %9%?% s% I% "%m% s%3% s%]! <%M% s% H\$N% (%i! <\$N1 F6 A

3.1.1.2 %m! <%@%V%k%b%8%e! <%k%3% %]! <%M% s%H

% ^%M! <%8% c\$K\$ h\$ jF OE *\$K% m! <% I\$ 5\$ 1! "< BN2=>\$ 5\$ 1\$ k% 3% %]! <%M% s%H\$ G\$ 9! #

%m! <%@%V%k%b%8%e! <%k%3% %]! <%M% s% HRT %3% %]! <%M% s%H\$ ODL> 6 "6 4-% i% \$% V% i% j\$ N7ABV\$ r\$ H
\$ j\$ ^\$ 9! #6 4-% i% \$% V% i% j\$ H\$ O! "< BT; \$KF OE *\$K% m! <% I\$ 5\$ 1\$ k% i% \$% V% i% j\$ N\$ 3\$ H\$ G\$ 9! #DL> dUNIX
7O\$ G\$ O3HD%; R, .so (HP-UX \$G\$ O .sl)! "Windows \$G\$ O .dll \$H\$ J\$ C\$ F\$ \$ ^\$ 9! # @% \$% J% _% C% /
%m! <% I! &% 3% %]! <%M% s%H\$ r: n@ . \$9\$ k: j\$ K= q\$ /% W% m% 0% i% '\$K\$ O main 4X? t\$, \$J\$ \$N\$ G\$ = \$N\$ ^\$ ^\$ G
\$ O< BT\$ G\$ -\$ ^\$;\$ s! #< BT\$ O% 3% %]! <%M% s%H\$ 5! <% F\$,! "% @% \$% J% _% C% /%m! <% I% 3% %]! <%M% s%H\$ rF 0
E *\$K% m! <% I\$ 7! "% 3% %]! <%M% s%H\$ 5! <% FF b\$ N% 3% %]! <%M% s%H\$ ^% M! <%8% c\$,% 3% %]! <%M% s%H\$ r@ 8@ .
\$ 7< BT\$ 7\$ ^\$ 9! #

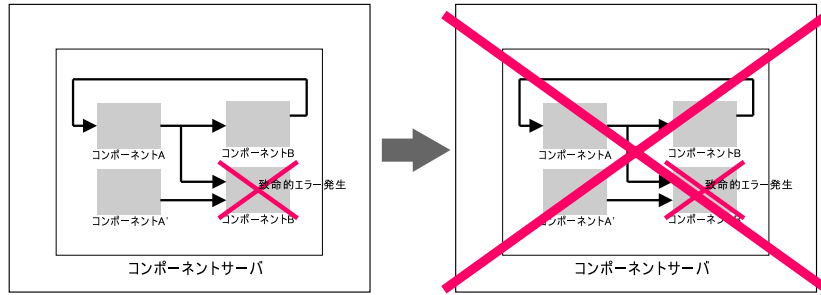


? ^ 3.4: %m! <%@%V%k%b%8%e! <%k%3% %]! <%M% s%H

%m! <%@%V%k%b%8%e! <%k%3% %]! <%M% s%H\$ O! "1 \$ D\$ N% W% m% ;% 9\$ KBP\$ 7\$ FJ #? t\$ N< 4 '\$NJ #? t\$ N% \$% s
% 9% ?% s% 9\$ r; \$ D\$ 3\$ H\$, \$ G\$ -\$ ^\$ 9 (? ^ 3.4)! #CORBA < Bu\$ N\$?\$ /\$ CF 10 1% W% m% ;% 9F b\$ G\$ N CORBA
% *% Z% 1! <% 7% g% s8F\$ S=F\$ 7\$ r9 bB .2=>\$ 9\$ k5 9=>\$, AH\$ _9~\$ ^\$ 1\$ F\$ \$ \$ k\$ b\$ N\$, B? \$ /! "L) @ \ \$ KO "7H\$ 5\$;\$?
\$ \$ % 3% %]! <%M% s%H\$ rF 10 1\$ N% 5! <% P> @ K@ 8@ . \$ 7@ \ B 3\$ 9\$ k\$ H! "% Q% U%)! <% ^% s% 9\$ N8 ~> @ , 8 + 9 ~\$ a\$ k> 1
9 g\$, \$ " \$ j\$ ^\$ 9! #

\$?\$ @ \$ 7! " \$ 3\$ 1\$ O; HQ\$ 7\$ F\$ \$ \$ k CORBA < Bu\$ K0M\$ k=j\$, Bg\$ -\$ /! "6 @NE *\$K\$ I\$ ND xEY9 bB .2=>\$ 5\$ 1
\$ k\$ + \$ O0 13 5\$ K\$ O8 @ \$ (\$ ^\$;\$ s\$, ! "B .EYE *@) L s\$ N8 7\$ 7\$ \$ % 7% 9% F% '\$ r9 =@ . \$ 9\$ k> 9 g\$ K\$ O\$ 3\$ &\$ 7\$?9 =@ .
J } K ! \$, M-8 z\$ H\$ J\$ k> 9 g\$, \$ " \$ k\$ G\$ 7\$ g\$ &! #

%m! <%@%V%k%b%8%e! <%kRT %3% %]! <%M% s%H\$ O% 9% ?% s% I% "% m% sRT %3% %]! <%M% s%H\$ H\$ O0 [\$ J\$ j! "
% W% m% ;% 9F b\$ N1 \$ D\$ N% 3% %]! <%M% s%H\$, % ;% 0% a% s% H0 ch EY\$ NCWL E *% (% i! <\$ r5 \$ 3\$ 7\$ FDd; 9\$ k\$ H! "
F 10 1% W% m% ;% 9F b\$ NA 4\$ F\$ N% 3% %]! <%M% s%H\$ bDd; 9\$ ^\$ 9 (? ^ 3.5)! # \$ 7\$?\$, \$ C\$ F! "0BD j\$ G\$ J\$ \$ % 3% s
%]! <%M% s%H\$ rB>\$ N% 3% %]! <%M% s%H\$ H\$ 1; \$ KF 0: n\$ 5\$;\$ k\$ H! "0BD j\$ KF 0: n\$ 7\$ F\$ \$ \$ k% 3% %]! <%M% s%H
\$ b4 , \$ -E : \$ (\$ K\$ 7\$ FDd; 9\$ k\$ J\$ I! "A 4BN\$ H\$ 7\$ FT 10 BD j\$ K\$ J\$ k% G% a% j% C% H\$, \$ " \$ j\$ ^\$ 9! #



? ^ 3.5: %m! <%@%V%k%b%8%e! <%k%3% s%]! <%M% s% H% N% (% i! <\$N! F6 A

0 1C6%\$% s% ?! <%U% '! <%9E,y\$N; MM\$,3ND j\$ 7! "=-J,\$K%G%P% C% 0\$ 5\$ 10BD j\$KF 0:n\$ 9\$ k% 3% s%]! <%M% s% H% \$,40@.\$ 9\$ 1\$ P! "\$=\$N% 3% s%]! <%M% s% H% rMxMQ\$ 9\$ k% f! <%6\$ O! "% 3% s%]! <%M% s% H% N% =! <%9% 3! <%I\$ K < \$D\$ 1\$ k\$ 3\$ H\$ J\$ 7\$ K! "B>\$N% 3% s%]! <%M% s% H% HA\$ _9g\$ o\$;! "%m% \C% H% 7% 9% F% '\$ r9=C [\$ 9\$ k\$ 3\$ H\$, \$G\$ -\$ ^\$ 9! # \$ 1\$,! "RT %3% s%]! <%M% s% H% rMxMQ\$ 9\$ k% Bg\$ -\$ J% a% j% C% H\$ N\$ F\$ H\$ D\$ G\$ 9! # % 3% s%]! <%M% s% H% C% Y% m% C% Q\$ O% =! <%9% 3! <%I! "%m! <%@%V%k%b%8%e! <%k7A< 0 "< BT%U% !% \$% k7A< QNG\$0U\$N7A< QG < 4,\$\$, :n@.\$ 7\$?% 3% s%]! <%M% s% H% rG [I [\$ 9\$ k\$ 3\$ H\$, \$G\$ -\$ ^\$ 9! #

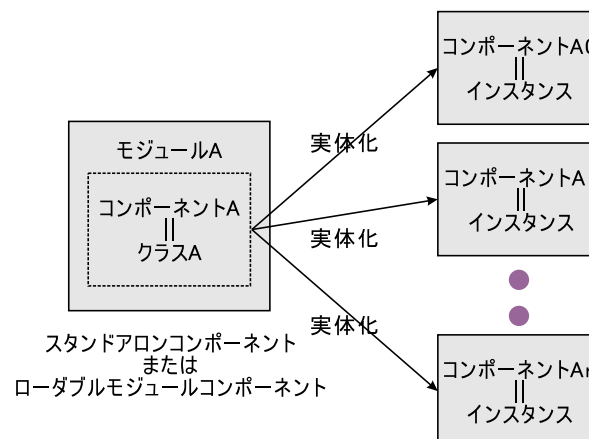
3.1.2 %b%8%e! <%k\$H%3% s%]! <%M% s% H

OpenRTM-aist \$G\$ O! "%b%8%e! <%k\$H%3% s%]! <%M% s% H\$ r0J2 <\$N\$h\$ &\$ K6 hL\$ 7\$ F\$ \$ \$ ^\$ 9! #

! | %b%8%e! <%k\$H%3% s%]! <%M% s% H

%b%8%e! <%k RT %3% s%]! <%M% s% H\$ N% b% G% k\$ rD j5 A9\$ k% /% i% 9! #
 %3% s%]! <%M% s% H %b%8%e! <%k\$N% /% i% 9\$ +\$ i< BN2=\$ 5\$ 1! "< B] \$KG [CV\$ 5\$ 1\$ k% =%U% H% &% (
 %"9=@.I tI J\$ 9\$ J\$ o\$ ART %3% s%]! <%M% s% H\$ =\$N\$ b\$ N! #

C++\$N%W% m% 0% i% 'E*2r< @r\$ 9\$ k\$ H! "%b%8%e! <%k= % /% i% 9\$ G\$ "\$ j! "% 3% s%]! <%M% s% H= % \$% s% 9% ?
 %s% 9\$ H\$ \$ \$ &% \$% a! <%8\$ K\$ J\$ j\$ ^\$ 9! # % 3% s%]! <%M% s% H\$ O% b% 8% e! <%k\$ +\$ i@ 8@.\$ 5\$ 1\$ k\$ b\$ N\$ G\$ "\$ j! "A
 \$H\$ \$ \$ &% b% 8% e! <%k\$ KB\$ F\$ 7\$ F! "% 3% s%]! <%M% s% H(A0, A1, ... , An) \$QJ#?tB8:_\$ 9\$ k\$ 3\$ H\$, \$G\$ -\$ ^\$ 9
 (? ^ 3.6) !#



? ^ 3.6: %b%8%e! <%k\$H%3% s%]! <%M% s% H

\$ "\$/\$ ^\$G! "hM}\$r< BT\$ 7\$F\$ \$\$k\$N\$O%3% s%]! <%M% s%H\$G\$ "\$j! "%b%8%e! <%k\$Q\$=\$N%3% s%]! <%M% s
%H\$Ncr7? \$H\$ \$\$&4X78\$G\$9! #3\$Ncr7? \$r: n@ . \$9\$ k\$?\$a\$N4pDl%/%i%9\$, OpenRTM-aist \$N%3% s%]! <
%M% s%H: n@ . \$N\$?\$a\$N%U%1! <% 'o! </\$H\$ 7\$EMQU\$ 5\$1\$F\$ \$\$ ^\$9! #3% s%]! <%M% s%H%G%Y% m% C%Q\$O! "\$3
\$N4pDl%/%i%9\$r7Q> \$ 7\$F< #,\$N%3% s%]! <%M% s%H\$r: n@ . \$ 7\$ ^\$9! #

3.2 %3% s%]! <%M% s%H\$N: n@ .

\$3\$3\$+\$i\$O! "< B]\$K4JC1\$J%3% s%]! <%M% s%H\$r: n@ . \$ 7\$J\$, \$i! "%3% s%]! <%M% s%H: n@ . \$N< jg\$reL@
\$ 7\$F\$F\$-\$ ^\$9! #J\$*! "0J2<\$G> Rp\$9\$k%5% s%W%k\$N%!=! <%9%3! <%I\$O! "G[I [%=! <%9%3! <%I\$Nexample
%G%#%1%/%H%j\$N2<\$K\$ "\$j\$ ^\$9! #

3.3 Hello RT World %5% s%W%k

\$ ^\$:: @a\$K! "Hello RT World" %3% s%]! <%M% s%H\$r: n@ . \$ 7\$ ^\$9! #

\$3\$N "Hello RT World" %3% s%]! <%M% s%H\$O! "5 7'0\$5\$1\$k\$H%3% s% !=! <%k\$K'Hello RT World!!!"
\$HI=< \$ 7B3\$1\$k\$@ \$1\$N%3% s%]! <%M% s%H\$G\$9! #=\$10J3O\$K\$Q2? \$b\$ 7\$J\$ \$4JC1\$J%3% s%]! <%M% s%H\$G
\$9! #3\$3\$G\$O! "%3% s%]! <%M% s%H%U%1! <% 'o! </\$N: G\$b4pK\ \$H\$J\$kI tJ, \$K\$D\$ \$\$F@bL@ \$ 7\$ ^\$9! #

%3% s%]! <%M% s%H: n@ . \$N\$?\$a\$KI, MW\$J%U% !%\$%k\$O< \$N4 \$D\$G\$9! #

! | HelloWorld %3% s%]! <%M% s%H: n@ . \$KI, MW\$J%U% !%\$%k

HelloRTWorld.h	HelloRTWorld %3% s%]! <%M% s%H\$N%X% C% @%U% !%\$%k! #
HelloRTWorld.cpp	HelloRTWorld %3% s%]! <%M% s%H\$N%!=! <%9%U% !%\$%k! #
HelloRTWorldComp.cpp	HelloRTWorld %3% s%]! <%M% s%H\$N%9% ?% s% I% "%m% s%3% s%]! <%M % s%H\$N\$?\$a\$N%!=! <%9%U% !%\$%k! #
Makefile	%S%k% I\$9\$k\$?\$a\$NMakefile! #

HelloRTWorld.h \$HHelloRTWorld.cpp \$G%3% s%]! <%M% s%H\$N%/%i%9\$G\$ "\$kHelloRTWorld %/
%i%9\$rDj5 A< Au\$ 7\$ ^\$9! #HelloRTWorld %/%i%9\$O%3% s%]! <%M% s%H\$N< BV\$H\$J\$k%/%i%9\$G! "%3
% s%]! <%M% s%H\$N4pDl%/%i%9\$G\$ "\$k RtcBase %/%i%9\$r7Q> \$ 7\$F: n@ . \$ 7\$ ^\$9! #

\$ ^\$?! "\$3\$3\$G\$O HelloRTWorld %3% s%]! <%M% s%H\$r%9% ?% s% I% "%m% s%3% s%]! <%M% s%H\$H
\$ 7\$F< Au\$ 7\$ ^\$9\$N\$G! "%3% s%]! <%M% s%H\$r< BN2=\$7< BT\$9\$k\$?\$a\$N%!=! <%9%3! <%I\$H\$ 7\$F! "
HelloRTWorldComp.cpp \$r: n@ . \$ 7\$ ^\$9! #HelloRTWorldComp.cpp \$r%3% s%Q% \$%k\$ 7\$F HelloRT-
World %/%i%9\$N%*%V%8% '%/%H%U% !%\$%k\$H%j% s%/\$ 7\$?\$b\$N\$r HelloRTWorldComp \$H\$7! "\$3\$1\$r< B
9T\$9\$k\$3\$H\$G HelloRTWorld %3% s%]! <%M% s%H\$r< BN2=! &< BT\$ 7\$ ^\$9! #

F1; \$K! "\$3\$3\$G\$O m! <%@%V%k%b%8%e! <%k\$b: n@ . \$ 7\$ ^\$9! #: n@ . \$N; E}\$O Makefile : n@ . \$N@ '\$G
=R\$Y\$ ^\$9! #

3.3.1 %X% C% @%U% !%\$%k

\$ ^\$: \$O! "%X% C% @ \$rDj5 A 7\$ ^\$9! #X% C% @ \$O> \$G\$b=R\$Y\$?\$h\$&\$K! "HelloRTWorld %/%i%9\$rDj5 A
\$9\$k\$b\$N\$G RtcBase %/%i%9\$r7Q> \$ 7\$ ^\$9! #=\$N\$ [\$+\$K\$b! "%3% s%]! <%M% s%H%/%i%9\$r: n@ . \$9\$k\$?

\$ a\$ND j7 ?E *@k8 @\$, \$ \$\$ /\$ D\$b\$ "\$ j\$ ^\$ 9! # \$ G\$ O! "HelloRTWorld.h \$ r8 +\$ F\$ _\$ ^\$ 7\$ g\$ &! #

HelloRTWorld.h

```
#ifndef __HELLORTWORLD_h__
#define __HELLORTWORLD_h__

#include <rtm/RtcBase.h>
#include <rtm/RtcManager.h>
#include <rtm/RtcInPort.h>
#include <rtm/RtcOutPort.h>

using namespace RTM;

static RtcModuleProfSpec hellortworld_spec[] =
{
    {RTC_MODULE_NAME, "HelloRTWorld"},
    {RTC_MODULE_DESC, "Hello RT world component"},
    {RTC_MODULE_VERSION, "0.1"},
    {RTC_MODULE_AUTHOR, "DrSample"},
    {RTC_MODULE_CATEGORY, "Generic"},
    {RTC_MODULE_COMP_TYPE, "COMMUTATIVE"},
    {RTC_MODULE_ACT_TYPE, "SPORADIC"},
    {RTC_MODULE_MAX_INST, "10"},
    {RTC_MODULE_LANG, "C++"},
    {RTC_MODULE_LANG_TYPE, "COMPILE"},
    {RTC_MODULE_SPEC_END, NULL}
};

class HelloRTWorld
: public RTM::RtcBase
{
public:
    HelloRTWorld(RtcManager* manager);
    virtual RtmRes rtc_active_do();
};

extern "C" {
    RtcBase* HelloRTWorldNew(RtcManager* manager);
    void HelloRTWorldDelete(RtcBase* p);
    void HelloRTWorldInit(RtcManager* manager);
};
#endif // __HELLORTWORLD_h__
```

9 T\$ C\$ F\$ \$ \$ k\$ 3\$ H\$ O0 J2 <\$ N\$ H\$ *\$ j\$ G\$ 9! #

- % \$ % s% /% k! <% I% ,! <% I
- 3 F< @X% C% @ \$ N% \$ % s% /% k! <% I
- namespace \$N; MQ@k8 @
- % b% 8% e! <% k\$ N% W% m% U% !% \$ % k% j% 9% H\$ ND j5 A
- HelloWorld % /% i% 9@ k8 @
- % U% !% /% H% j4 X? t\$ H= i4 |2 =4 X? t\$ N@ k8 @

\$ ^\$:! "% \$ % s% /% k! <% I% ,! <% I\$ G\$ 9\$,! "% X% C% @ \$ N\$ F\$ =E% \$ % s% /% k! <% I K I; _ 9\$ k7 h\$ ^\$ jJ 86 \$ G\$ 9! #: G
8 e\$ NBF1 ~\$ 9\$ k #endif \$ rK :\$ l\$ J\$ \$ \$ G\$ /\$ @ \$ 5\$ \$! #

RTM \$ K4 X\$ 9\$ k3 F< @X% C% @ \$ r% \$ % s% /% k! <% I\$ 7\$ ^\$ 9! # % 3% s%]! <% M% s% H% G% Y% m% C% Q\$,: n@ . \$ 9\$ k% 3
% s%]! <% M% s% H\$ O! "I, \$: RtcBase % /% i% 9 (\$ b\$ 7\$ /\$ O\$ = \$ N% 5% V% /% i% 9) \$ r7 Q> \$ 9\$ k\$ 3\$ H\$ K\$ J\$ j\$ ^\$ 9! #
\$ 7\$ 2\$, \$ C\$ F! "RtcBase.h (\$ b\$ 7\$ /\$ O\$ = \$ N% 5% V% /% i% 9\$ N% X% C% @) \$ r% \$ % s% /% k! <% I\$ 9\$ kI , MW\$, \$ "\$ j\$ ^
\$ 9! # \$ ^\$?! "RT % 3% s%]! <% M% s% H\$ N% 3% s% 9% H% i% /% ?\$ O RtcManager \$ N%]% \$ % s% ?\$ r< @1< @ k\$ N\$ G! "
RtcManager.h \$ r% \$ % s% /% k! <% I\$ 9\$ k\$ +! "RtcManager \$ N% /% i% 9@ k8 @ \$, I , MW\$ H\$ J\$ j\$ ^\$ 9! #

RTM 4XO "\$ N% /% i% 9\$ O! "\$ 9\$ Y\$ F RTM \$ H\$ \$ \$ &L>A06 @V\$ N2 <\$ KB8: _\$ 7\$ F\$ \$ \$ ^\$ 9! # \$ 7\$, \$?\$ C\$ F! "\$ 3
\$ l\$ i\$ N% /% i% 9\$ d4 X? t\$ r; MQ\$ 9\$ k> @g\$ K\$ O! "L>A02r7h1 i; ; R: \$ r; MQ\$ 7\$ F RTM::RtcBase \$ H; @j

```
$ 9$ k$ +! "using namespace $r; MQ$ 7$ FL>A06 4V$r< ǂj9~$ 'I,MW$, $ "j$ ^$ 9! #3$ 3$ G$ O! "L>A06 u
4V RTM $r< ǂj9~$ s$ G$ $$ ^$ 9! #
```

```
< $K! "%b%8%e! <%k%W%m%U% !%$%k% j%9%H$ r@k8 @ $ 7$ F$ $$ ^$ 9! #b%8%e! <%k$ K$ O! "%b%8%e! <%kL>! ": n
@ .< T "%P! <%8%g$ s$ H$ $$ C$ ?! "%b%8%e! <%k( $ *$ h$ S%3% s% ]! <%M% s%H) $ K4X$ 9$ k> ǂs$ r4X0 "I U$ 1$ kI ,
MW$, $ "j$ ^$ 9! #b%8%e! <%k%W%m%U% !%$%k$ K$ O! "0J2<$N> ǂs$ r3JG<$ 7$ ^$ 9! #
```

```
! |%3% s% ]! <%M% s%H%W%m%U% !%$%k
```

RTC_MODULE_NAME	%b%8%e! <%kL>! #b%8%e! <%k\$NL>A0\$r; ǂj\$ 7\$ ^\$ 9! #(HelloRTWorld)
RTC_MODULE_DESC	%b%8%e! <%k3 5MW! #b%8%e! <%k\$NC ;\$ \$@bL@ \$r; ǂj\$ 7\$ ^\$ 9! # (Hello RT world component)
RTC_MODULE_VERSION	%b%8%e! <%k%P! <%8%g\$ s! #b%8%e! <%k\$N%P! <%8%g\$ s\$ r\$ r; X Dj\$ 7\$ ^\$ 9! #(0.1)
RTC_MODULE_AUTHOR	%b%8%e! <%k: n@ .< T #b%8%e! <%k\$N: n@ .< \$r; ǂj\$ 7\$ ^\$ 9! # (DrSample)
RTC_MODULE_CATEGORY	%b%8%e! <%k%+%F% 4% j! #b%8%e! <%k\$N%+%F% 4% j\$ r; ǂj\$ 7\$ ^\$ 9! #(Generic)
RTC_MODULE_COMP_TYPE	%3% s%]! <%M% s%H7 ?! #b%8%e! <%k\$N\$, @8@ . \$ 9\$ k%3% s%]! < %M% s%H\$N7 ?\$ r; ǂj\$ 7\$ ^\$ 9! #(COMMUTATIVE)
RTC_MODULE_ACT_TYPE	% "% /%F% #S%F% #7 ?! #b%8%e! <%k\$N% "% /%F% #S%F% #7 ?\$ r; X Dj\$ 7\$ ^\$ 9! #(SPORADIC)
RTC_MODULE_MAX_INST	: @g\$ \$% s%9% ?% s%9? t! #b%8%e! <%k\$, @8@ . \$ 9\$ k: @g\$N%3 % s%]! <%M% s%H? t\$ r; ǂj\$ 7\$ ^\$ 9! #(10)
RTC_MODULE_LANG	%b%8%e! <%k5 =R8 @8 1L>! #b%8%e! <%k\$N5 =R8 @8 1\$ r; ǂj\$ 7 \$ ^\$ 9! #(C++)
RTC_MODULE_LANG_TYPE	%b%8%e! <%k5 =R8 @8 17 ?! #b%8%e! <%k\$N5 =R8 @8 17 ?\$ r; ǂj \$ 7\$ ^\$ 9! #(COMPILE)
RTC_MODULE_SPEC_END	% j%9%H= *N; % ^! <%+! #3\$N% j%9%H\$N= *\$ o\$ j\$ r0UL # \$ 7\$ ^\$ 9! # % j%9%H\$N: @e\$ KI , \$:I , MW\$ G\$ 9! #

```
RTC_MODULE_NAME:%b%8%e! <%kL>
```

```
$ 3$N%b%8%e! <%k$NL>A0$r1 Q? t; ǂG5 =R$ 7$ ^$ 9! #Motor $H$ + Sensor $H$ $$ C$ ?0 1HIE *$ JL>; $ O
6 KChr$ 1! "$ G$ -$ k$ @ $ 16 ǂNE *$ JL>A0$r; MQ$ 9$ k$ h$ &$ K$ 7$ F$ /$ @ $ 5$ $! #
```

```
%G%U%)%k% H$ G$ O! "$ 3$N%b%8%e! <%kL>$ rMxMQ$ 7$ F%3% s% ]! <%M% s%H$KL>A0$, $ D$ 1$ i$ 1$ ^$ 9! # $ H$ (
$ P! "%b%8%e! <%kL>HelloRTWorld $H$ $$ &b%8%e! <%k$ + i$ O! 'HelloRTWorld0, HelloRTWorld1,
... $H$ $$ &3% s% ]! <%M% s%H$, @8@ . $ 5$ 1$ ^$ 9! #b%8%e! <%kL>$ K8 e$ m$ K$ D$ /L>A0$ QF10 1% ^$ M! <%8% c
> @KB8: _$ 9$ k%b%8%e! <%k$ KB$ 7$ F! "0 $ +$ i= gHV$ KI U2 C$ 5$ 1$ ^$ 9! #3$N$ h$ &$ K$ 7$ F! "%3% s% ]! <%M
% s%H$N% $% s%9% ?% s%9$ 4$ H$ K$ D$ 1$ i$ 1$ ?L>A0$ O! "%M! <%_ s%0%5! <%S%9$ KEFO? $ 5$ 1! "0J8e%3% s% ]! <
%M% s%H$ r< JIL$ 9$ k$ ?$ a$ K; MQ$ 5$ 1$ ^$ 9! #3$NL>A0IU$ 1$ N5 ǂ '$ O% f! <%6$ ,G$0 U$ KJQ$ ($k$ 3$ H$, =P
Mh$ ^$ 9$, ! "$ = $ NJ JK ! $ K$ D$ $$ F$ O$ 3$ 3$ G$ O3 d0 &$ 7$ ^$ 9! #
```

RTC_MODULE_DESC:%b% 8% e! <%k3 5MW

%b% 8% e! <%k\$N3 5MW\$ r5 =R\$ 7\$ ^\$ 9! # \$ o\$ +\$ j\$ d\$ 9\$ \$3 5MW\$ r4 J7 i\$ K5 =R\$ 7\$ F\$ /\$ @ \$ 5\$ \$! #

RTC_MODULE_VERSION:%b% 8% e! <%k%P! <%8% g% s

%b% 8% e! <%k\$N%P! <%8% g% sHV9 f\$ r5 =R\$ 7\$ F\$ /\$ @ \$ 5\$ \$! #P! <%8% g% sHV9 f\$ N\$ D\$ 1J }\$ N: rK ! \$ H\$ 7\$ F\$ O! " %a% 8% c! <%P! <%8% g% s\$ H% ^% %J! <%P! <%8% g% s\$ r\$ D\$ 1\$ k\$ d\$ jJ }\$,0 lHIE *\$ G\$ 9! #B gI }\$ J5 G=\$N2 ~D {! "8e J }8_4 9@ -\$,L5\$ /\$ J\$ k\$ J\$ I\$ NUQ9 9\$ O! "%a% 8% c! <%P! <%8% g% s% "%C% W\$ H\$ 7! "\$=\$ 1\$ i\$ K\$ ~\$?\$ J\$ \$> \$ 5\$ J 2 ~D { \$ O% ^% %J! <%P! <%8% g% s\$ H\$ 9\$ k\$ J\$ I\$ G\$ 9! #> \$ 5\$ J% P% 0% U% #C% /% 9\$ J\$ I\$ O! "% ^% %J! <%P! <%8% g% s "%C% W\$ H\$;\$:= \$@ 5H\$ G\$ H\$ 7\$ F% j% j! <%9\$ 9\$ k\$ 3\$ H\$,B ?\$ \$\$ h\$ &\$ G\$ 9! #

RTC_MODULE_AUTHOR:%b% 8% e! <%k: n@ .<T! &%Y% s% @L>

\$3\$N%b% 8% e! <%k\$ r: n@ . \$ 7\$??M\$ N; B>\$ *\$ h\$ S= jB 0\$ r5 =R\$ 7\$ ^\$ 9! #

RTC_MODULE_CATEGORY:%b% 8% e! <%k% +%F% 4% j

%b% 8% e! <%k\$N% +%F% 4% j\$ r5 =R\$ 7\$ ^\$ 9! # +%F% 4% j\$ K4 X\$ 7\$ F\$ O! "F C\$ K7 h\$ ^\$ j\$ r@ _\$ 1\$ F\$ \$ \$ ^\$;\$ s\$,! " : #8e5 D j\$,@ _\$ 1\$ i\$ 1\$ k2 DG=@ -\$, \$ " \$ j\$ ^\$ 9! #: #N\$ H\$ 3\$ m\$ O! "< M3\$ KL>A 0\$ r\$ D\$ 1\$ F\$ b\$ +\$ ^\$ \$ \$ ^\$;\$ s! #

RTC_MODULE_COMP_TYPE:%3% s%]! <%M% s% H7 ?

%3% s%]! <%M% s% H\$ O\$ = \$NB8: _7ABV\$ K\$ h\$ j0 J2 <\$N3 < N ' \$N7 ?\$ KJ , \$ 1\$ i\$ 1\$ ^\$ 9! #

! | %3% s%]! <%M% s% H7 ?

STATIC	@EE *\$ KB8: _\$ 9\$ k% 3% s%]! <%M% s% H! #% 3% s%]! <%M% s% H\$ O% b %8% e! <%k\$N=i4 2=\$HF 1; \$ K@ 8@ . \$ 5\$ 1! "0 J8 eF OE *\$ K@ 8@ . \$ 5\$ 1\$?\$ j: o= \$ 5\$ 1\$?\$ j\$ 7\$ ^\$;\$ s! #% O! <%I% &% (% "\$H? <\$ / 7k\$ S\$ D\$ \$ \$?% 3% s%]! <%M% s% H\$ O! "%3% s%]! <%M% s% H\$ N? t\$, J *M JE *% G% P% % 9\$ N? t\$ K@)8 B\$ 5\$ 1\$ ^\$ 9! #3\$ N\$ h\$ &\$ K! "F OE * \$ J@ 8@ . \$,0 UL # \$ r@ . \$ 5\$ J\$ \$ %3% s%]! <%M% s% H\$ O\$ STATIC 7 ? \$ KE v\$?\$ j\$ ^\$ 9! #
UNIQUE	\$3\$N%3% s%]! <%M% s% H\$ O! "F OE *\$ K@ 8@ . \$ 7\$?\$ j: o= \$ 7\$?\$ j \$ 9\$ k\$ 3\$ H\$, \$ G\$ -\$ ^\$ 9! # \$ 7\$ +\$ 7\$ J\$, \$ i! "\$=\$ 1\$ >\$ 1\$ N% 3% s %]! <%M% s% H\$ O\$ F b i t\$ K8 GM-\$N> BV\$ r; \$ C\$ F\$ *\$ j! "I, \$:\$ 7\$ b 2D4 9\$ G\$ O\$ "\$j\$ ^\$;\$ s! #
COMMUTATIVE	\$3\$N%3% s%]! <%M% s% H\$ O! "F OE *\$ K@ 8@ . \$ 7\$?\$ j: o= \$ 7\$?\$ j \$ 9\$ k\$ 3\$ H\$, \$ G\$ -\$ ^\$ 9! # \$ ^\$?! "F b i t\$ K8 GM-\$N> BV\$ r; \$?\$ J \$ \$ N\$ G! " @ 8@ . \$ 5\$ 1\$?% 3% s%]! <%M% s% H\$ O\$ 2D4 9\$ G\$ 9! #

< # , \$, : n@ . \$ 7\$?\$ \$ %3% s%]! <%M% s% H\$ N7 ?\$ K\$ "\$ o\$;\$ F! "STATIC, UNIQUE, COMMUTATIVE \$N\$ \$ \$:

\$ 1\$+\$r%@%V%k%/%*!<%H\$G0O\$ s\$G; 0j\$7\$^\$9! #3\$N%3%\$%!<%M%\$H\$O COMMUTATIVE 7?K@_Dj\$5
\$ 1\$F\$ \$\$^\$9! #8=:_\$N\$H\$3\$m! "\$3\$N@_Dj\$O%3%\$%!<%M%\$H\$N5 B0\$KlF6 A1M?\$ (\$^\$;\$s! #

RTC_MODULE_ACT_TYPE:%"/%F%#%S%F%#7?

%3%\$%!<%M%\$H\$N%"/%F%#%S%F%#O! "F0:n7ABV\$N< 0'\$K\$h\$j0J2<\$N3< 0'\$KJ,\$1\$i\$1\$^\$9! #
(OpenRTM-aist-0.2.0 \$N< Bu\$G\$O\$3\$1\$i\$N@k8@O; MQ\$5\$1\$F\$ \$\$^\$;\$s! #j% "%k%?%\$%'< 4|=HM}
\$r< B=\$7\$?\$\$> 0g\$O! "8=:_\$O\$f!<%6\$,\$=\$N=HM}\$r< Bu\$9\$kl,MW\$,\$"\$j\$^\$9\$,! "> MhE*\$K\$O%j% "
%k%?%\$%'OS> 0G\$N%j% "%k%?%\$%'\$J< 4|< BT\$r%5%\$%!<%H\$9\$KM=Dj\$G\$9! #)

!|%" /%F%#%S%F%#7?

PERIODIC	Periodic(=< 4 E*\$J) %"/%F%#%S%F%#! #a%\$%s\$N%"/%F%#%S %F%#O0lDj; 4V\$4\$H\$K7+\$jV\$7=HM}\$5\$1\$^\$9! #j% "%k%?%\$%' OS> 0G\$O! "053N\$J< 4 =HM}\$,2DG=\$G\$9! #
SPORADIC	Sporadic(=; 0 E*\$J) %"/%F%#%S%F%#! #a%\$%s\$N%"/%F%#%S %F%#O7+\$jV\$7=HM}\$O9T\$o\$1\$^\$9\$,! "\$=\$N< 4 \$OI tDj\$H\$J\$ j \$^\$9! #Nc\$ (\$P! "%;%\$5\$NCM\$,JQ2=\$7\$?H\$-\$@1! "3OI t\$K\$=\$1 \$rCN\$ i\$;\$k%3%\$%!<%M%\$HEy\$OSporadic \$J%3%\$%!<%M%\$H\$K \$J\$k\$G\$7\$g\$&! #
EVENT_DRIVEN	3OI t\$+\$i\$N%\$%Y%\$H\$Kl~\$8\$F=HM}\$r9T\$&%3%\$%!<%M%\$H! #3 \$N> 0g\$N3OI t\$H\$O< 0K! "B>\$N%3%\$%!<%M%\$H\$+\$iH/9T\$5\$1\$k CORBA %*Z%1!<%7%g\$s\$N; 0r; 07\$^\$9! #

\$3\$N%3%\$%!<%M%\$H\$G\$O! "SPORADIC \$K@_Dj\$5\$1\$F\$ \$\$^\$9! #

RTC_MODULE_MAX_INST::0Bq%\$%\$%9%?%\$%9?t

@00.\$G\$-\$k:0Bg\$N%\$%\$%9%?%\$%9?t(=%3%\$%!<%M%\$H?t) \$r; 0j\$7\$^\$9! #STATIC \$J%3%\$%!<%M
%\$H\$G\$O! "%b%8%e!<%k=i4|2=; 0K:0Bg?t\$N%\$%\$%9%?%\$%9\$,@00.\$5\$1\$^\$9! #=\$10J30\$N%3%\$%!<
%M%\$H\$G\$O! "\$3\$N? tCMJ> 0N%\$%\$%9%?%\$%9\$r@00.\$9\$k\$3\$H\$O=FMh\$^\$;\$s! #3\$N%3%\$%!<%M%\$H
\$O%\$%\$%9%?%\$%92=2DG=\$J:0Bg?t\$O10 \$K@_Dj\$5\$1\$F\$ \$\$^\$9! #

RTC_MODULE_LANG:%b%8%e!<%k5=R8@8lL>\$H\$=\$N7?

\$3\$3\$K\$O! "\$3\$N%3%\$%!<%M%\$H\$r5 =R\$9\$k%W%\$%0%i%_s%08@8l\$*\$h\$S=\$N8@8l\$N7?\$r; 0j\$7
\$^\$9! #

!|b%8%e!<%k5=R8@8l\$H7?

%b%8%e!<%k5 =R8@8lL> ‘‘C++’’, ‘‘Python’’, ‘‘Ruby’’, ‘‘Tcl’’
%b%8%e!<%k5 =R8@8l7? ‘‘COMPILE’’, ‘‘SCRIPT’’

8=:_%5%]! <%H\$ 7\$F\$ \$\$k8 @8 1\$O! "C++\$HPython \$N\$ _\$G\$9! #b%8%e! <%k5 =F8 @8 17 ?\$O\$=\$ 1\$>\$ 1! " C++ \$G\$ "\$ 1\$P "COMPILE", Python \$G\$ "\$ 1\$P "SCRIPT" \$r; Øj\$ 7\$ ^\$9! #

\$3\$ 1\$ i%3% s%]! <%M% s%H\$N%W% m%U% !%\$%k\$N; Øj\$N; Ø }\$O! ": #8 eJQ9 9\$ 5\$ 1\$ k2DG=@-\$,\$ "\$j\$ ^\$9! # XML 7A< ØN%W% m%U% !%\$%k5 =R%U% !%\$%k\$K5 =R\$ 7F I\$ _9 ~\$ '\$3\$H\$G%W% m%U% !%\$%k\$ r@ _Dj\$ 9\$kJ }K!\$, 8 !F\$\$5\$ 1\$F\$ \$\$ ^\$9! #

3.3.2 %=! <%9%U% !%\$%k

< \$K! "=hM}\$NK\BN\$H! "%U% !%/H% j4X?t! "=i4 |2=4X?t\$N< Au\$N%=! <%9%3! <%I\$r:n@ . \$ 7\$ ^\$9! # HelloRTWorld.h \$GDj5 Å 7\$?%/i%9\$N%a%=%C%I\$r< Au\$ 7\$F\$F\$-\$ ^\$9! #

\$G\$O! "%=! <%9%3! <%I\$r8+\$F\$ _\$ ^\$ 7\$g\$&! #

HelloRTWorld.cpp

```
#include "HelloRTWorld.h"
#include <iostream>

using namespace std;

HelloRTWorld::HelloRTWorld(RtcManager* manager)
: RtcBase(manager)
{
}

RtmRes HelloRTWorld::rtc_active_do()
{
    std::cout << "Hello RT World!!!" << std::endl;
    return RTM_OK;
}

extern "C" {

    RtcBase* HelloRTWorldNew(RtcManager* manager)
    {
        return new HelloRTWorld(manager);
    }

    void HelloRTWorldDelete(RtcBase* p)
    {
        delete (HelloRTWorld *)p;
        return;
    }

    void HelloRTWorldInit(RtcManager* manager)
    {
        RtcModuleProfile profile(hellortworld_spec);
        manager->registerComponent(profile, HelloRTWorldNew, HelloRTWorldDelete);
    }
};
```

%3% s%9%H% i%/% ?\$G\$O! "%3% s%]! <%M% s%H% ^%M! <%8% c\$X\$N%]%\$%s%?\$r< @1< Øj! "\$3\$N% ^%M! <%8% c \$N%]%\$%s%?\$r4pD 1%/% i%9RtcBase \$KEO\$ 7\$FRtcBase \$r=i4 |2=\$ 7\$F\$ \$\$ ^\$9! #RtcBase \$N=i4 |2=\$r K:\$ 1\$:\$K9 T\$C\$F\$/\$ @5 5\$ \$! #

< \$K! "M#0 1\$N%a%=%C%I RtmRes HelloRTWorld::rtc_active_do() \$,\$ "\$j\$ ^\$9! # \$3\$ 1\$, RT %3% s%]! <%M% s%H\$N%a%\$%s\$N=hM}I tJ,\$G\$9! #

\$3\$N%a%\$%s\$N=hM}\$N I tJ,\$r%3% s%]! <%M% s%H\$N% "%/%F% #S%F% #H\$h\$S\$ ^\$9! # %3% s%]! <%M% s%H\$N %3% s%]! <%M% s%H\$N% "%/%F% #S%F% #O\$ \$\$/\$D\$+\$N> BV\$r; \$A\$=\$N> BV4V\$r5 B '\$K\$ 7\$?\$,\$C\$FA+0\ \$ 7\$ ^\$9! #rtc_active_do() \$H\$ \$\$&a%=%C%I\$O! "%3% s%]! <%M% s%H\$,5 F\$O\$7! "\$=\$N%3% s%]! <%M% s%H

\$N% "%/%F%#%S%F%#\$, ACTIVE > BV\$K\$ "k\$H\$-%k! <%W< BT\$5\$1\$^\$9! #

%3%\$%]! <%M%\$%H\$N% "%/%F%#%S%F%#\$N> BV\$K\$O0J2 <\$N\$b\$N\$, \$ "j\$^\$9! #

!|3%\$%]! <%M%\$%H% "%/%F%#%S%F%#\$>uBV

UNKNOWN : 2<5 \$KDj5 A5\$1\$k> BV0J30\$N> BV! #DL> \$3\$N> BV\$K\$O
@.\$jF@Sj\$! #

BORN : %\$%\$%9%?%\$%9@8@.Cf\$N> BV! #

INITIALIZING : FbIt> BV\$r=i4|2=\$9\$k=i4|> BV! #

READY : 3hF0\$730It\$+\$i\$N%*%Z%1! <%7%g%\$r< \$1IU\$1\$k> BV! #

STARTING : READY > BV\$+\$iACTIVE > BV\$X0\9T\$9\$k\$H\$-\$KDL2a
\$9\$k2aEO> BV! #

ACTIVE : 3h@-> BV\$H\$J\$ j%a%\$%\$H\$J\$k=HM}\$r< BT\$9\$k> BV! #

STOPPING : ACTIVE > BV\$+\$iREADY > BV\$X0\9T\$9\$k\$H\$-\$KDL2a
\$9\$k2aEO> BV! #

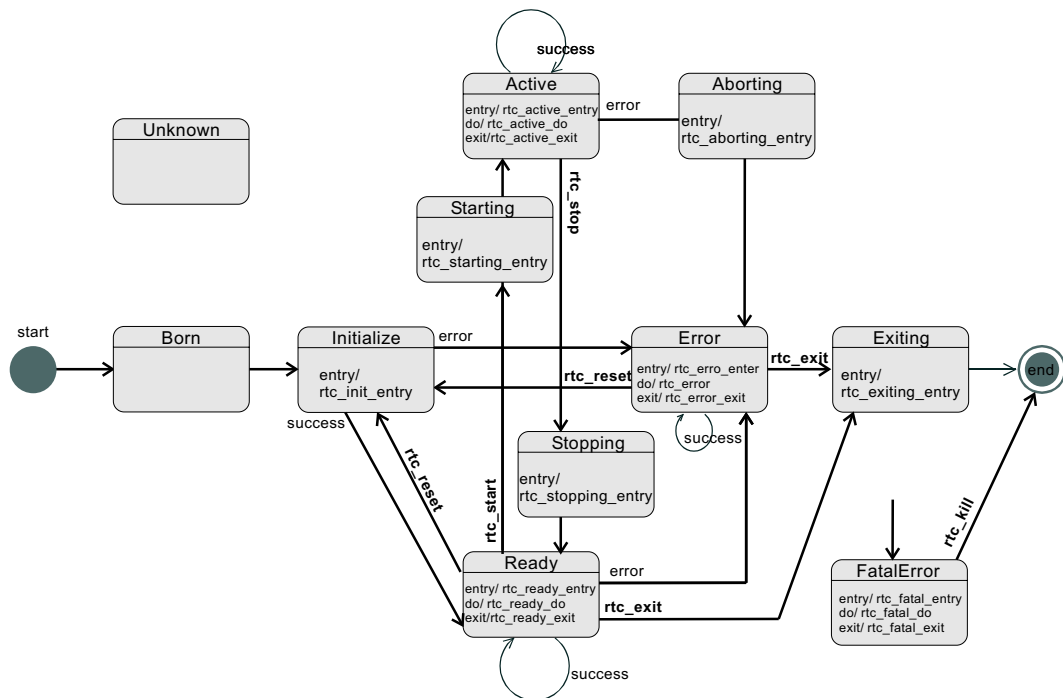
ABORTING : 3h@-> BV; \$K% (%i! <\$rJaB*\$7ERROR > BV\$X\$H0\9T\$9
\$k2aEO> BV! #

ERROR : I|5 2DG=\$J% (%i! <> BV! #

FATAL_ERROR : CWL?E*% (%i! <> BV! #I|5 \$9\$k\$3\$H\$O\$G\$-\$J\$! #

EXITING : %3%\$%]! <%M%\$%H%*N;> BV! #%j%=! <%9\$N2rJ|EY\$r9T\$&! #

\$3\$1\$i\$N% "%/%F%#%S%F%#\$N> BV\$O?^3.7 \$N> BVA+0\?^\$K=>\$C\$FA+0\ \$7\$^\$9! #



?^3.7: RT %3%\$%]! <%M%\$%H%> BVA+0\?^

\$=\$1\$>\$1\$N> BV\$K\$*\$\$\$F! "BPl~\$9\$k%a%=%C%I\$, < BT\$5\$1\$^\$9! #? \$H\$ (\$P! 'RTC_READY > BV\$G
\$ "1\$Prtc_ready_???) \$,< BT\$5\$1\$^\$9! #??? \$NI tJ,\$O\$=\$N> BV\$N\$I\$N%?%\$%_%\$%O\$G< BT\$5
\$1\$k\$+\$r< \$7\$F\$ \$\$^\$9! #

```
entry $O$=$N> BV$KF~$k$H$-$K0 lEY$ @ $ 1< BT$ 5$ 1$ ^$ 9! #exit $O$=$N> BV$+$i=P$k$H$-$K0 lEY
$ @ $ 1< BT$ 5$ 1$ ^$ 9! #do $O$=$N> BV$K$ $$k4V< 4 |< BT$ 5$ 1$ ^$ 9! #
```

```
! |>uBVA+0 \> \: Y
```

```
entry : $=$N> BV$K?JF~$9$k$H$-$K0 lEY$ @ $ 1< BT$ 5$ 1$ k! #
do : $=$N> BV$K$ "$k4V7+$jV$ 7< BT$ 5$ 1$ k! #
exit : $=$N> BV$+$i=P$k$H$-$K< BT$ 5$ 1$ k! #
```

```
$3$1$ i$N> BV$CBg$-$/J,$1$F! "Dj> 0 BV$H2aEO> BV$KJ,$1$ i$ 1$ ^$ 9! #
```

```
! |Dj> >uBV$H2aEO>uBV
```

```
Dj> 0 BV READY, ACTIVE, ERROR, FATAL_ERROR
2aEO> BV BORN, INITIALIZING, STARTING STOPPING, ABORTING, EXITING
$=$NB> UNKNOWN
```

```
Dj> 0 BV$O! "0 lC6$=$N> BV$KF~$k$H! "2 ?$ i$+$N% "%/% 7% g% s (3h@-2=$9$k! "Hs3h@-2=$9$k! ":F
=i4 |2=$9$k! "6 @)=*N;$9$k) $,$ "$k$ ^$G! "$=$N> BV$KN1$ ^$ j$ ^$ 9! #=$N4V! "rtc_xxx_do() $r
%k! <%W< BT$ 7B3$ 1$ ^$ 9! #Dj> 0 BV$G$O! "$=$N> BV$+$i=P$k$H$-$HF~$k$H$-$Krtc_xxx_entry(),
rtc_xxx_exit() $,< BT$ 5$ 1$ ^$ 9! #
```

```
$3$1$KBP$7$F2aEO> BV$O! "$=$N> BV$KF~$k$H$-rtc_xxx_entry() $r0 lEY$ @ $ 1=HM}$7! "$9$0
$K< $N> BV$KA+0 \ $7$ ^$ 9! # $7$ ?$,$C$F! "2aEO> BV$KBP1 ~$9$k%a%=%C% I$K$O rtc_xxx_do() $H
rtc_xxx_exit() $,$ "$j$ ^$;$s! #
```

```
RT %3% s% ]! <%M% s% H$N4pD1%/% i% 9! "RtcBase $G$O> 5 $N> BV$=$1$>$1$N> 9g$K=HM}$9$k%a%=%C
% I$, virtual Dj5 A5$1$F$ $$ ^$ 9! # $7$ ?$,$C$F! "%3% s% ]! <%M% s% H% G% Y% m% C% Q$O! "< J,:n@.$9$k%3% s
% ]! <%M% s% H$KI,MW$ @ $ H; W&> BV$K$D$ $$F$N=HM}$r! "BP1 ~$9$k%a%=%C% I$r:FDj5 A9$k$3$H$G! "$=
$1$>$1$N% ?% % _% s% 0$G=HM}$r< BT$ 5$;$k$3$H$,$G$-$ ^$ 9! #
```

```
4pD1%/% i% 9! "RtcBase $KDj5 A5$1$F$ $$k%a%=%C% I$O0J2<$N$H$*$j$G$9! #
```

RtcBase
+ virtual RtmRes rtc_init_entry()
+ virtual RtmRes rtc_ready_entry()
+ virtual RtmRes rtc_ready_do()
+ virtual RtmRes rtc_ready_exit()
+ virtual RtmRes rtc_starting_entry()
+ virtual RtmRes rtc_active_entry()
+ virtual RtmRes rtc_active_do()
+ virtual RtmRes rtc_active_exit()
+ virtual RtmRes rtc_stopping_entry()
+ virtual RtmRes rtc_aborting_entry()
+ virtual RtmRes rtc_error_entry()
+ virtual RtmRes rtc_error_do()
+ virtual RtmRes rtc_error_exit()
+ virtual RtmRes rtc_fatal_entry()
+ virtual RtmRes rtc_fatal_do()
+ virtual RtmRes rtc_fatal_exit()
+ virtual RtmRes rtc_exiting_entry()

\$3\$N! "HelloRTWorld \$NNc\$G\$O! "C1\$K%3%\$%!<%M%\$H\$,3h@-> BV\$N; \$K%3%\$%=<%k\$K" Hel-
loRTWorld!!!!" \$HI=< \$7B3\$1\$k\$@ \$1\$N=HM}\$J\$N\$G! "rtc_active_do() \$K

HelloRTWorld::rtc_active_do()

```
RtmRes HelloRTWorld::rtc_active_do()
{
    std::cout << "Hello RT World!!!" << std::endl;
    return RTM_OK;
}
```

\$H5 =R\$7\$^\$9! # \$3\$3\$G! "La\$ jCMRtmRes (RTM result) \$, RTM_OK \$H\$J\$C\$F\$ \$\$^\$9! #

RtmRes \$K\$O! 'RTM_OK, RTM_ERR, RTM_WARNING, RTM_FATAL_ERR \$N4 < 8 '\$NCM\$, \$"\$ j! "OUL#
\$OOJ2 <\$N\$h\$&\$K\$J\$C\$F\$ \$\$^\$9! #

RtmRes

RTM_OK	@5> e*N; ! #8=:_\$N> BV\$rJ]; \$9\$k! #
RTM_ERR	%(i! <= *N; ! #Error > BV\$X0\9T\$9\$k! #Active > BV\$N\$H\$- \$OAborting \$rDL2a\$7\$F\$+\$iError > BV\$XA+0\9\$k! #!
RTM_WARNING	7Y9p> BV! #2?\$i+\$N0 [> \$,\$ \$"C\$?\$3\$H\$r8F\$S=P\$7B&\$K EA\$(\$k\$, ! "8=:_\$N> BV\$rJ]; \$9\$k! #
RTM_FATAL_ERR	CWL 2E *% (i! <= *N; ! #FatalError > BV\$X0\9T\$9\$k! #Active > BV\$N\$H\$-\$OAborting \$rDL2a\$7\$F\$+\$iError > BV\$XA+ 0\9\$k! #

```
$3$N$h$&$K! "La$ jCMRtmRes $OCM$K$h$ j%3% s% ]! <%M% s%H$N> BV$rJQ2=$5$;$k8 z2L$r; $A$^$9! #
$3$3$G$O! "> $KRTM_OK $rJV$7$^$9! #
```

3.3.3 %3% s%]! <%M% s% H<B9 T% U% !% \$% k

```
> 5 $N%3% s% ]! <%M% s%H$rC1BN$N< BT%U% !% $% k$H$7$F% S% k% I$9$ k$ ?$ a$Nmain 4X?t$r4^$ '%=<
%9%3! <%I$r:n@.$7$^$9! #3$3$G$O! "%3% s% ]! <%M% s%H% ^%M! <%8% c$r:n@.$7! "$3$N% ^%M! <%8% c> $G
%3% s% ]! <%M% s%H$r@8@.! &% "%/F% #V> BV$K$7$^$9! #!=<%9%3! <%IHelloRTWorldComp.cpp $O< !
$N$h$&$K$J$j$^$9! #
```

```
main 4X?t$G$O! "% ^%M! <%8% c% *%V%8% '%/H$r@8@.$7! "=i4 |2=! "% "%/F% #V2=! "%3% s% ]! <%M% s%H
$N@8@.! "% ^%M! <%8% c$N< BT$r9T$C$F$ $ $^$9! #
```

```
% ^%M! <%8% c$O%3% s%9% H% i%/% ?$N0 z?t$H$7$F%3% ^% s% I% i% $% s0 z?t$r$H$ k$N$G! "main $N%3% ^% s% I
% i% $% s0 z?t$r$=$N$^$ ^%M?$ ($F$ $ $^$9! #
```

```
initManager() $G% ^%M! <%8% c$N=i4 |2=! "activateManager $G% "%/F% #V2=$H% ^%M! <%8% c$N
%M! <_% s% 0%5! <%S%9$X$NEFO?$r9T$ $ $^$9! #
```

```
initModuleProc $O% ^%M! <%8% c$X$N% ]% $% s% ?$ r0 z?t$H$7$F< $k4X?t$X$N% ]% $% s% ?$ rM?$ ($F$ $ $^
$9! #3$3$N$ ?$ ($i$1$24X?t$r% ^%M! <%8% c$OE,@Z$J% ?% $% _% s% 0$G< BT$7$^$9! #: G8e$KrunManager()
$G% ^%M! <%8% c$,5 $0$7$^$9! #
```

```
MyModuleInit() $G$O! "%3% s% ]! <%M% s%H$N=i4 |2=4X?tHelloRTWorldInit() $r8F$S=P$7%3% s
% ]! <%M% s%H$r=i4 |2=$7$F$ $ $^$9! #=$N8e! "% ^%M! <%8% c> $GHelloRTWorld %3% s% ]! <%M% s%H$r:n
@.$9$ k$ ?$ a$K createComponent() $r8F$S=P$7! "%3% s% ]! <%M% s%H$N% $% s%9% ?% s%9$r1 $D@8@.$7
$F$ $ $^$9! #3$3$N$H$-! " createComponent() $NBh1 0 z?t$K$O! "%3% s% ]! <%M% s%H$N% b%8%e! <%kL>
($3$3$G$OHelloRTWorld)! "Bh2 0 z?t$K$O%+F%4% jL>$rM?$ ($F$ $ $^$9! #
```

```
:G8e$K! "$3$N%3% s% ]! <%M% s%H$KB$7$F rtc_start() $r8F$S=P$7! "%3% s% ]! <%M% s%H$N> BV$r
ACTIVE > BV$K$7$F$ $ $^$9! #usleep(5000) $O%3% s% ]! <%M% s%H$,@8@.$5$1 READY > BV$K$J$ k$^
$GBT$D$ ?$ a$N%&% '% $% H$G$9! #3$3$N$c$O%5% s%W% k$J$N$G! "%3% s% ]! <%M% s%H$N@8@.! "% "%/F% #V2=
$^$G$r MyModuleInit() $K$F9T$C$F$ $ $^$9$,! "DL> $O3OI t$+$i2 ?$ i$+$NJ>K! (rtc-link $rMQ$ $
$key) $G! "@8@.! &% "%/F% #V2=$r9T$ $ $^$9! #
```

HelloRTWorldComp.cpp

```
#include <rtm/RtcManager.h>
#include <string>
#include "HelloRTWorld.h"
```

```
void MyModuleInit(RtcManager* manager)
{
    HelloRTWorldInit(manager);

    std::string name;
    RtcBase* comp;
    comp = manager->createComponent("HelloRTWorld", "Generic", name);
    usleep(5000);
    comp->rtc_start();
}
```

```

int main (int argc, char** argv)
{
    RTM::RtcManager manager(argc, argv);
    // Initialize manager
    manager.initManager();
    // Activate manager and register to naming service
    manager.activateManager();
    // Initialize my module on this manager
    manager.initModuleProc(MyModuleInit);
    // Main loop
    manager.runManager();
    return 0;
}

```

3.3.4 Makefile \$N: n@ . \$H%\$%k%I

```

> 5 $NHelloWorld.cpp, HelloWorld.h, HelloWorldComp.cpp $N3 $D$N%!=<%9$r9g$o$;
$F! "%9%?%$%I% "%m%$%3%$% ]! <%M%$%H$H%$m! <%@%V%k%b%8%e! <%k$r%$%k%I$ 7$ ^$9! #3%$% ]! <%M%$%H
$r%$%k%I$ 9$ k$ ?$ a$N Makefile $O$ *$ *$ h$=0J2 <$N$ h$ &$ K$ J$ j$ ^$9! #

```

```

CXX_FLAGS $ *$ h$ SLD_FLAGS $O OpenRTM $r%$%k%I$ 7$ ?4D6 $K$h$ j0 [$J$ j$ ^$9! #3$3$G$O! "
omniORB $r; MQ$ 7$F OpenRTM-aist $,%$%k%I$ 5$ 1$ ?$ b$N$H$ 7$F$=$ 1$ >$1! "2<5 $N$h$ &$ J%3%$
%Q%$%k! &%j%$% /% *%W% 7%g$ $H$ J$ C$F$ $$ ^$9$ ,!"ACE!"omniORB!"boost Ey$NOMB8%Q%C%1! <%8$N
%$%$%9%H! <%k@h$K$h$ j$ 3$ 1$ i$N% *%W% 7%g$ $UJ$ o$ C$F$-$ ^$9! #< 4,$N4D6 $K9g$o$;$?E,@Z$J%*
%W% 7%g$ $r; 8j$ 9$ kI,MW$,,$ "j$ ^$9! #8e$NNc$G$O$ 3$3$G< $9Nc$h$ j! "$h$ jHEMQE*$JU }K!$K$D$ $
$F2r@b$ 7$ ^$9$ ,!"$ 3$3$G$O$ 3$ &$ $$C$ ?%3%$%Q%$%k! &%j%$% /% *%W% 7%g$ $ ,I,MW$ J$ 3$ H$ rM}2r$ 7$F
$/ $ @5$5$ $! #

```

Makefile

```

CXXFLAGS = -I/usr/local/include -I/usr/local/include/rtm/idl
LDFLAGS   = -L/usr/local/lib -lpthread -lace -lboost_regex -lomniORB4 \
            -lomnithread -lomniDynamic4 -lRTC
SHFLAGS   = -shared
.SUFFIXES: .cpp .o .so

all: HelloRTWorldComp HelloRTWorld.so

.cpp.o:
rm -f $@
$(CXX) $(CXXFLAGS) -c -o $@ $<

.o.so:
rm -f $@
$(CXX) $(SHFLAGS) -o $@ $< $(LDFLAGS)

HelloRTWorldComp: HelloRTWorld.o HelloRTWorldComp.o
$(CXX) -o $@ HelloRTWorld.o HelloRTWorldComp.o $(LDFLAGS)

clean:
rm -f *~ *.o *.so *Comp

```

```

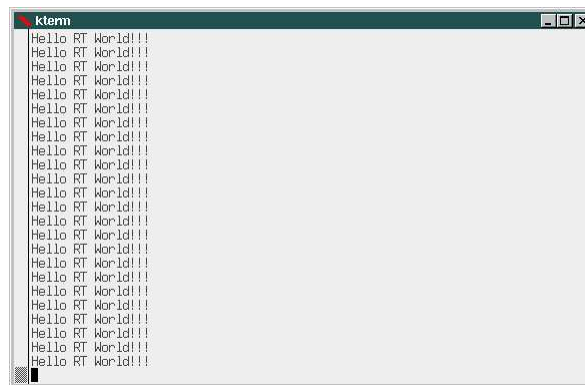
$j$ *! "$3$NMakefile $G$O .o.so %k! <%k$b; 8j$ 5$ 1$F$ *$ j! "$3$ 1$K$h$ j$m! <%@%V%k%b%8%e! <%k

```

```
%3% s% ]! <%M% s%H HelloWorld.so $bF1; $KQ 8Q . $ 9$ k$ h$ &$ K$ J$ C$ F$ $ $ ^$ 9! # $ 3$ N% 3% s% ]! <%M% s%H
$O! "OpenRTM-aist IUBO$N% 3% s% ]! <%M% s%H% 5! <%P rtcd $K% m! <% I$ 7$ F; MQ$ 9$ k$ 3$ H$ , $G$ -$ ^$ 9! #
> \Y$K$D$ $$F$O3F< 0D! <%k$N; MQK!$r; 2 4 7$F$ /$ @ $ 5$ $! #
```

3.3.5 <B9T! &%F%9%H

```
> 5 $NMakefile $G%=! <% 9$ r% S% k% I$ 7$ F! "< BT%U% !% $% k HelloWorldComp $r: n@ . $ 7$ ^$ 9! # $ 3$ N
< BT%U% !% $% k$ r -f rtc.conf $ J$ I$ N% 3% s% ]! <%M% s%HQ _D j% U% !% $% k$ r0 z? t$ H$ 7$ FM? $ ($F< BT$ 7
$ ^$ 9! #< BT$ 9$ k$ H? ^ 3.8 $N$ h$ &$ K$ J$ j$ ^$ 9! #
```



? ^ 3.8: HelloRTWorldComp \$N< BT

3.4 rtc-template \$r;HMQ\$ 7\$?% 3% s%]! <%M% s%H\$N: n@ .

\$ 3\$ 1\$ ^\$ G8+\$F\$-\$?\$ h\$ &\$ K! "% 3% s%]! <%M% s%H2=\$ 9\$ k\$?\$ a\$ N\$ 3! <% I\$ H\$ \$\$ &\$ N\$ O\$ [\$H\$ s\$ I7h\$ ^\$ j\$ -\$ C
\$?\$ b\$ N\$ K\$ J\$ j\$ ^\$ 9! #OpenRTM-aist \$ K\$ O\$ 3\$ 1\$ i\$ N\$ 3! <% I\$ r< F0E*\$K@8@ . \$ 9\$ k\$ 3! <% I\$ 8% 'M% 1! <
% ?rtc-template \$,IUB0\$ 7\$ F\$ \$\$ ^\$ 9! #3\$ 3\$ +\$ i\$ O! "\$ 3\$ Nrtc-template \$r; MQ\$ 7\$ F% 3% s%]! <%M
% s%H\$ r: n@ . \$ 9\$ kJ)K ! \$ r@lL @ \$ 7\$ ^\$ 9! #

\$ 3\$ N\$ 3% ^% s% I\$ O! "% 3% s%]! <%M% s%H\$ NL>A0\$d7 ?\$ rM ?\$ (\$F\$ d\$ k
\$ H! "RT % 3% s%]! <%M% s%H\$ NC++(\$dPython) \$ N\$!=! <% 9% 3! <% I\$ N? w7A\$ r=FN0\$ 7\$ ^\$ 9! #3% s%]! <%M
% s%H\$ G% Y% m\$ C% Q\$ O! "=FN0\$ 5\$ 1\$?? w7A\$ N\$ /% i\$ 9\$ N3F% "% /% F% #% S% F% # \$ KBP1 ~\$ 9\$ k\$ a\$ =% C% I\$ K9 T\$ \$\$?
\$ \$=H\$ j\$ rD I2 C\$ 9\$ k\$ @ \$ 1\$ G! "% 3% s%]! <%M% s%H\$ N5 E0\$ r5 =R\$ 9\$ k\$ 3\$ H\$, \$ G\$ -\$ ^\$ 9! #

3.4.1 % 3% s%]! <%M% s%H\$N; EMM\$ r7h\$ a\$ k

\$ ^\$:\$ O\$ 8\$ a\$ K! ": n@ . \$ 7\$?\$ % 3% s%]! <%M% s%H\$N; EMM\$ r7hD j\$ 7\$ ^\$ 9! #3% s%]! <%M% s%H\$ r: n@ . \$ 9\$ k
\$?\$ a\$ K0 J2 <\$ N9 'L \ \$ r\$ "\$ i\$ +\$ 8\$ a7h\$ a\$ kI , MW\$, \$ "\$ j\$ ^\$ 9! #

- % 3% s%]! <%M% s%H\$ b% 8% e! <%kL>
- % 3% s%]! <%M% s%H\$ +% F% 4% jL>
- % 3% s%]! <%M% s%H\$?% %W
- % 3% s%]! <%M% s%H\$ N\$ "% /% F% #% S% F% # \$ N\$?% %W
- InPort \$N?t! "L>A0! "JQ?t7?
- OutPort \$N?t! "L>A0! "JQ?t7?

!V% 3% s%]! <%M% s%H\$ b% 8% e! <%kL>! W! !V% 3% s%]! <%M% s%H\$ +% F% 4% jL>! W! !V% 3% s%]! <%M% s%H\$?% %
% W! W! "V% 3% s%]! <%M% s%H\$ N\$ "% /% F% #% S% F% # \$ N\$?% %W! W\$ O\$ = \$ 1\$ > \$ 1 HelloRTWorld % 5% s% W\$ k\$ N\$ X\$ C% @
\$ K\$ *\$ \$\$\$ RtcModuleProfile 9=B\$BN\$K; Øj\$ 7\$?! "RTC_MODULE_NAME, RTC_MODULE_CATEGORY,
RTC_MODULE_COMP_TYPE, RTC_MODULE_ACT_TYPE \$ KBP1 ~\$ 7\$ ^\$ 9! #

% 3% s%]! <%M% s%H\$ b% 8% e! <%kL>

% 3% s%]! <%M% s%H\$ >\$ O! "B>\$N\$ "% W\$ j\$ 1! <% 7% g\$ s! "% 3% s%]! <%M% s% HEy\$ +\$ i\$ = \$ N\$ 3% s%]! <%M% s%H\$ r
C5\$ 9\$ H\$ -\$ K; MQ\$ 7\$ ^\$ 9! #L>A0\$ O! "B>\$N\$ 3% s%]! <%M% s%H\$ H> WM\$ 7\$ J\$ \$\$ h\$ &\$ K! "\$ G\$ -\$ k\$ @ \$ 16 BNE*
\$ JL>A0\$ r\$ D\$ 1\$?\$ [\$ &\$, \$ h\$ \$\$ G\$ 7\$ g\$ &! #L>A0\$ NI U\$ 1J } \$ K\$ D\$ \$\$ F\$ O\$ C\$ K\$, % \$ I\$ i\$ % \$ s\$ J\$ I\$ O\$ "\$ j\$ ^
\$;\$ s\$, ! "f! <% 6\$, A } 2C\$ 72 ?\$ i\$ +\$ N\$, % \$ I\$ i\$ % \$ s\$ r@_ \$ 1\$ kI , MW\$, H / @ 8\$ 7\$?> 9g\$ K\$ O! "0 J8 e\$ N\$ P! <
% 8% g\$ s\$ K\$ *\$ \$\$ F\$, % \$ I\$ i\$ % \$ s\$ r@_ \$ 1\$ k2 DG=@ -\$ b\$ "\$ j\$ ^\$ 9! #

! | Nc: % 3% s%]! <%M% s%H\$ b% 8% e! <%kL>

PA10	% ^% K\$ T\$ e! 1! <% ?
NittaFTSensor	NO% H\$ k\$ /% ;% s% 5
ForceControllerForPA10	PA10 \$ rNO@)8 f\$ 9\$ k\$ 3% s% H\$ m! <% i% 3% s%]! <%M% s% H
:	:

%3% s%]! <%M% s%H% +%F% 4% jL>

%3% s%]! <%M% s%H\$N% +%F% 4% j\$ r\$ " \$ i\$ o\$ 9L>A0\$ r; Ø j\$ 7\$ ^\$ 9! #L>A0\$ O! "\$=\$N% 3% s%]! <%M% s%H\$N% +
%F% 4% j\$ rI=\$9\$N\$KE, @Z\$ JL>A0\$ r\$D\$ 1\$?\$ [\$ &\$, \$h\$ \$\$G\$ 7\$ g\$ &! #L>A0\$ NI U\$ 1J)\$K\$ D\$ \$\$F\$ CF\$C\$K%, %\$
%I% i% \$% s\$ J\$ I\$ O\$ "\$ j\$ ^\$;\$ s\$, ! "%f! <%6\$, A }2C\$ 72 ?\$ i\$ +\$N%, %\$%I% i% \$% s\$ r@_ \$ 1\$ kI, MW\$, H /@8\$ 7\$?
> 9\$K\$ O! "0J8 e\$N%P! <%8%g\$ s\$K\$ *\$ \$\$F%, %\$%I% i% \$% s\$ r@_ \$ 1\$ k2DG=@-\$b\$ "\$ j\$ ^\$ 9! #

! | Nc: %3% s%]! <%M% s%H% +%F% 4% jL>

Manipulator	% ^%K% T% e% l! <% ?
FTSensor	NO%H% k% /% ;% s% 5
Controller	%3% s%H% m! <% i
:	:

%3% s%]! <%M% s%H% ?% \$%W

%3% s%]! <%M% s%H\$N% ?% \$%W\$H\$O! " @8@ . \$ 5\$ 1\$ k% 3% s%]! <%M% s%H\$N% \$% s% 9% ?% s% 9\$N7A< Ør; 87\$ ^\$ 9! #
%3% s%]! <%M% s%H% ?% \$%W\$K\$ O0J2 <\$N\$ b\$N\$, \$ "\$ j\$ ^\$ 9! #

! | %3% s%]! <%M% s%H% ?% \$%W

STATIC	%3% s%]! <%M% s%H\$O% ^%M! <%8% c\$KEFO ?\$ 5\$ 1\$ k\$ HF 1; \$K% \$% s% 9 % ?% s% 92=\$5\$ 1! "? 7\$?\$K@8@ . \$ 9\$ k\$ 3\$ H\$ O\$ G\$ -\$J\$ \$! #O! <%I% & % (" \$KL)@ \ \$K4X78\$ 9\$ k% 3% s%]! <%M% s%HEy\$ O\$ 3\$N% ?% \$%W\$K\$ 9 \$k\$H%O! <%I% &% (" \$H% 3% s%]! <%M% s%H\$NBP1 ~\$, \$H\$ j\$ d\$ 9\$ \$! #
UNIQUE	%3% s%]! <%M% s%H\$CF OE *\$K@8@ . ! &: o= \$ 9\$ k\$, \$G\$ -\$k\$, ! "com- ponent0 \$H component1 \$O0 [\$J\$ kF bI t> BV\$ r; \$A8r492D G=\$G\$ O\$ J\$ \$! #
COMMUTATIVE	%3% s%]! <%M% s%H\$O! "B_ \$ \$K8r492DG=! #=\$U% H% &% (" \$N% m% ØC % /\$N\$ _\$N% 3% s%]! <%M% s%H\$O\$ 3\$N% ?% \$%W\$K\$ J\$ k! #

%3% s%]! <%M% s%H\$N% "% /%F% #%S%F% # \$N% ?% \$%W

%3% s%]! <%M% s%H\$NF bI t\$NB hF 0\$N7A< ØK\$ h\$ j0J2 <\$N% ?% \$%W\$, \$ "\$ j\$ ^\$ 9! #

! | %3% s%]! <%M% s%H% "% /%F% #%S%F% #% ?% \$%W

PERIODIC %3%\$%]! <%M%\$%H\$N3hF0\$001Dj< 4 |\$G9T\$0\$1\$^\$9! # \$?\$ @ \$ 7! " F0:n< 4 |\$r< \$1\$k\$+Hj\$+\$O! "OS \$K0MB8\$7\$^\$9! # \$ j% "%k%? %\$% 'OS(ART-LINUX) \$r; HMQ\$9\$1\$F01Dj< 4 |F0:n\$r9T\$o \$;\$k\$3\$H\$O\$G\$-\$^\$9\$;! "H\$ j% "%k%?%\$% 'OS \$G\$O87L)\$J< ~ 4 |F0:n\$r\$5\$;\$k\$3\$H\$OI T2DG=\$G\$9! #

SPORADIC %3%\$%]! <%M%\$%H\$N3hF0\$N< 4 |\$001Dj\$G\$O\$J\$,\$! "7+\$jV\$7 9T\$o\$1\$^\$9! #

EVENT_DRIVEN 30It\$+\$i\$N%*%Z%1! <%7%g%\$K\$h\$j< E0E*\$KF0:n\$7\$^\$9! #

InPort \$N?t! "L>A0! "JQ?t7?

InPort \$H\$O3OI t\$+\$i\$N%G! <?\$r< \$1< \$k8}\$KEv\$?\$j\$^\$9! #3%\$%]! <%M%\$%H\$QJ#?t\$NInPort \$r ; \$D\$3\$H\$,\$G\$-\$^\$9! #InPort \$K\$OL>A0\$r\$D\$1! "30It\$N% "%W%j%1! <%7%g%\$d\$3%\$%]! <%M%\$%H\$O\$=\$NL>A0\$K\$h\$jInPort \$rFCDj\$7\$^\$9! #

L>A0

! | Nc: **InPort** \$NL>A0

"velocity"	B.EY
"reference"	L\I8CM
"position"	0LCV

JQ?t7?

InPort \$K\$O4v\$D\$+\$N7h\$^\$O\$?JQ?t7?\$N\$b\$N\$,\$ "\$i\$+\$8\$aMQ0U\$5\$1\$F\$,\$\$^\$9! #7?\$N< N '\$OCM\$r \$R\$H\$D\$7\$+J]; \$7\$J\$,\$\$b\$N\$H! "G [N\$H\$7\$FJ#?t\$NCM\$rJ]; \$G\$-\$k%7! <%1%\$%97?\$,\$ "\$j\$^\$9! #

! | **InPort/OutPort** \$NJQ?t7?

TimedShort	%?%\$%'%9%?\$%W\$D\$-I0fIUShort Int 7?
TimedLong	%?%\$%'%9%?\$%W\$D\$-I0fIU Long Int 7?
TimedUShort	%?%\$%'%9%?\$%W\$D\$-I0f\$J\$7Short Int 7?
TimedULong	%?%\$%'%9%?\$%W\$D\$-I0f\$J\$7 Long Int 7?
TimedFloat	%?%\$%'%9%?\$%W\$D\$-Float 7?
TimedDouble	%?%\$%'%9%?\$%W\$D\$-Double 7?
TimedChar	%?%\$%'%9%?\$%W\$D\$-Char 7?
TimedBoolean	%?%\$%'%9%?\$%W\$D\$-Boolean 7?
TimedOctet	%?%\$%'%9%?\$%W\$D\$-Octet 7?
TimedString	%?%\$%'%9%?\$%W\$D\$-String 7?

! | InPort/OutPort \$NJQ?t7? (%7! <%1% s% 9)

TimedShortSeq	% ?% % ' % 9% ?% s% W\$ D\$ -I d9 fI U Short Int %7! <%1% s% 97?
TimedLongSeq	% ?% % ' % 9% ?% s% W\$ D\$ -I d9 fI U Long Int %7! <%1% s% 97?
TimedUShortSeq	% ?% % ' % 9% ?% s% W\$ D\$ -I d9 f\$ J\$ 7 Short Int %7! <%1% s% 97?
TimedULongSeq	% ?% % ' % 9% ?% s% W\$ D\$ -I d9 f\$ J\$ 7 Long Int %7! <%1% s% 97?
TimedFloatSeq	% ?% % ' % 9% ?% s% W\$ D\$ - Float %7! <%1% s% 97?
TimedDoubleSeq	% ?% % ' % 9% ?% s% W\$ D\$ - Double %7! <%1% s% 97?
TimedCharSeq	% ?% % ' % 9% ?% s% W\$ D\$ - Char %7! <%1% s% 97?
TimedBooleanSeq	% ?% % ' % 9% ?% s% W\$ D\$ - Boolean %7! <%1% s% 97?
TimedOctetSeq	% ?% % ' % 9% ?% s% W\$ D\$ - Octet %7! <%1% s% 97?
TimedStringSeq	% ?% % ' % 9% ?% s% W\$ D\$ - String %7! <%1% s% 97?

OpenRTM-aist \$K\$*\$\$\$F\$O\$3\$1\$i\$N7?\$r CORBA 7PM3\$G8r492DG=\$J7?\$H\$7\$F
 RTCDatatype.idl Fb\$GDj5 7\$F\$^\$9! #f! <%6\$OI,MW\$J\$i\$P! "RTCDatatype.idl \$K9=
 B\$BN\$rDI2C\$9\$k\$3\$H\$G! "?7\$?J7?\$r; MQ\$9\$k\$3\$H\$, =FMh\$^\$9\$,! "\$3\$3\$G\$O\$=\$N> \Y\$O3d0&\$7
 \$^\$9! ##

OutPort \$N?t! "L>A0! "JQ?t7?

OutPort \$H\$O3OI t\$ +\$ i\$N%G! <% ?\$ r< \$1< \$k8 }\$KE v\$?\$ j\$ ^\$9! #3% s%]! <%M% s% H\$ QJ #? t\$NOutPort
 \$r; \$D\$3\$H\$, \$G\$-\$^\$9! #OutPort \$K\$QL>A0\$ r\$D\$1\$k\$3\$H\$, \$G\$-! "3OI t\$N% "%W% j%1! <%7% g% s\$ d%3
 % s%]! <%M% s% H\$ O\$=\$NL>A0\$K\$h\$ j OutPort \$rFCDj\$7\$^\$9! #

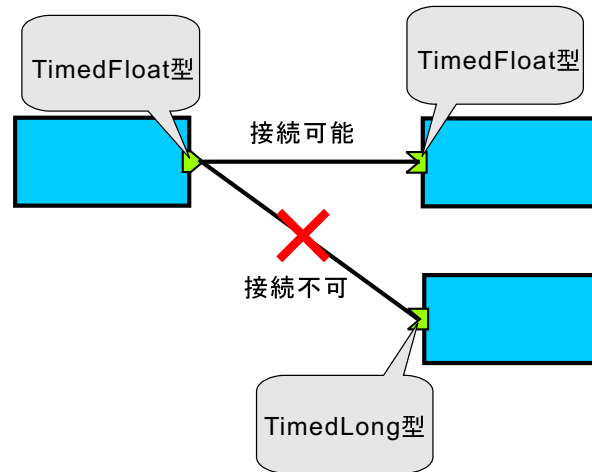
L>A0

! | Nc: InPort \$NL>A0

"velocity"	B.EY
"reference"	L\I8CM
"position"	0LCV

JQ?t7?

OutPort \$K\$OInPort \$HF1MM\$N7h\$^\$C\$?JQ?t7?\$N\$b\$N\$, \$" \$i\$ +\$8\$aMQ0U\$5\$1\$F\$^\$9! #7?\$N< o
 N'\$OInPort \$HF1\$8\$G! F1\$87 F1; \$NInPort \$HOutPort \$N\$_\$, %G! <% ?\$ r\$ d\$ j< \$j\$G\$-\$^\$9(3.9)! #



? ^ 3.9: InPort \$H OutPort \$N7?\$H@ \B3

3.4.2 rtc-template \$r;HMQ\$ 7\$F?w7A\$r:n@ . \$9\$k

> 5 \$N9 'L\ \$r7h\$a\$?\$i! "%3%\$%]! <%M%\$%H\$N%F%\$%W%l! <%H%8% 'M%l! <%? rtc-template \$r; HMQ\$ 7\$F%3%\$%]! <%M%\$%H\$N?w7A\$r:n@ . \$9\$k\$ 3\$H\$, \$G\$-\$ ^\$9! #

\$3\$3\$G\$00J2 <\$N2>D j\$K4p\$E\$-! "%3%\$%]! <%M%\$%H\$r:n@ . \$7\$F\$ \$\$-\$ ^\$9! #

% "%/%F%#%S%F%#N=Hm}

% ^%K%T%e%l! <%?@)8 fMQ\$N% i%\$%V%i j\$,B8: _\$7! "%i%\$%V%i j\$N4X? t\$K\$00J2 <\$N\$h\$&\$J\$b\$N\$, \$"\$k\$H2>D j\$7\$ ^\$9! #

! |Nc % ^%K%T%e%l! <%?@)8 fMQ%i%\$%V%i j4X? t\$NNc

manipulator_init()	: % ^%K%T%e%l! <%?\$N=i4 2=
manipulator_on()	: % ^%K%T%e%l! <%?\$N%5! <%\ \$rON \$K\$9\$k
manipualtor_off()	: % ^%K%T%e%l! <%?\$N%5! <%\ \$rOFF \$K\$9\$k
manipulator_setpos()	: % ^%K%T%e%l! <%?\$N< @h\$NL \I8CM\$ r@_D j\$9\$k
manipulator_getpos()	: % ^%K%T%e%l! <%?\$N< @h\$NOLCV; @*\$r< E@ \$9\$k
manipulator_emgstop()	: % ^%K%T%e%l! <%?\$r6 \$ Dd; _\$5\$;\$k
manipulator_destroy()	: % ^%K%T%e%l! <%?\$N% j%=! <%9\$ r3 +J \$9\$k

! |%3%\$%]! <%M%\$%H\$N; EMM

%3% s%]! <%M% s%H% b% 8% e! <%kL>	MyManipulator
%3% s%]! <%M% s%H% +%F% 4% jL>	Manipulator
%3% s%]! <%M% s%H% ?% \$% W	STATIC
%3% s%]! <%M% s%H% "% /%F% #% S% F% #% ?% \$% W	PERIODIC
InPort \$N?t	1 8D L\I8CM\$r< \$1< \$k
InPort \$NL>A0	"pos"
InPort \$NJQ?t7?	TimedFloatSeq
OutPort \$N?t	1 8D 8=_0LCV\$r=FN0\$9\$k
OutPort \$NL>A0	"pos"
OutPort \$NJQ?t7?	TimedFloatSeq

rtc-template \$G?w7A\$r:n@.

%3% s%]! <%M% s%H% \$r:n@ .\$9\$k%G% \$% 1% /%H% j(G\$0U\$N%G% #% 1% /%H% j\$G7k9=\$G\$9! #) \$r:n@ .\$7\$F! "\$=\$
\$3\$G%3% s%]! <%M% s%H% \$r:n@ .\$7\$^\$9! #

```
> cd
> mkdir MyManipulator
> cd MyManipulator
```

\$^\$:\$0help \$r8+\$F\$_\$^\$9! #

```
> rtc-template --help
```

Usage: rtc-template [OPTIONS]

Options:

[--help]	Print this help.
[--c++]	Generate C++ template code.
[--python]	Generate Python tempalte code.
[--output[=output_file]]	Output base file name.
[--module-name[=name]]	Your module name.
[--module-desc[=description]]	Module description.
[--module-version[=version]]	Module version.
[--module-author[=author]]	Module author.
[--module-category[=category]]	Module category.
[--module-comp-type[=component_type]]	Component type.
[--module-act-type[=activity_type]]	Component's activity type.
[--module-max-inst[=max_instance]]	Number of maximum instance.
[--module-lang[=language]]	Language.
[--module-inport[=PortName:Type]]	InPort's name and tyoe.
[--module-outport[=PortName:Type]]	OutPort's name and type
:	
CfN,	
:	

Example:

```
rtc-template --c++ --module-name=Sample --module-desc='Sample component' \
--module-version=0.1 --module-author=DrSample --module-category=Generic \
--module-comp-type=COMMUTATIVE --module-act-type=SPORADIC \
--module-max-inst=10 \
--module-inport=Ref:TimedFloat --module-inport=Sens:TimedFloat \
--module-outport=Ctrl:TimedDouble --module-outport=Monitor:TimedShort
```

```
rtc-template $K: n@ . $ 7$ ?$ $%3% s% ]! <%M% s%H$N@_D j$ r0 z? t$ H$ 7$ FEC$ 9$ H! "%3% s% ]! <%M% s%H$N
?w7A$N%!=! <%9%3! <%I$ r: n@ . $ 7$ ^$ 9! # $ 3$ 3$ G$ O! "> 6 $N; EM$K$ 7$ ?$ , $ C$ F! "% *%W% 7% g% s$ r; 8 j$ 7
?w7A$ r: n@ . $ 7$ ^$ 9! #
```

```
> rtc-template --c++ --module-name=MyManipulator \
  --module-desc='My simple manipulator' \
  --module-version=0.1 --module-author=MyName --module-category=Manipulator \
  --module-comp-type=STATIC --module-act-type=PERIODIC \
  --module-max-inst=1 \
  --module-import=posin:TimedFloatSeq --module-outport=posout:TimedFloatSeq
MyManipulator.h was generated.
MyManipulator.cpp was generated.
MyManipulatorComp.cpp was generated.
Makefile.MyManipulator was generated.
> ls
Makefile.MyManipulator  MyManipulator.h          MyManipulatorComp.cpp
MyManipulator.cpp       MyManipulator.h
MyManipulator.cpp       MyManipulatorComp.cpp
```

```
$ 3$N$h$ &$K! "%3% s% ]! <%M% s%H$NC++$N%3! <%I$ HMakefile $ , : n@ . $ 5$ 1$ ^$ 9! # $ 3$ 3$ G! "
```

```
> make -f Makefile.MyManipulator
$b$ 7$ /$O
> mv Makefile.MyManipulator Makefile
```

```
$H$ 7$F make $ 7$F$_$ ^$ 9! #
```

```
> make
rm -f MyManipulator.o
g++ 'rtm-config --cflags' -c -o MyManipulator.o MyManipulator.cpp
:
CfN,
:
g++ 'rtm-config --libs' -o MyManipulatorComp MyManipulator.o MyManipulatorComp.o
rm -f MyManipulator.so
g++ -shared 'rtm-config --libs' -o MyManipulator.so MyManipulator.o
> ls
Makefile.MyManipulator  MyManipulator.o          MyManipulatorComp.cpp
MyManipulator.cpp       MyManipulator.so*        MyManipulatorComp.o
MyManipulator.h         MyManipulatorComp*
```

```
$ 3$ 1$ G! "%m! <%@V%k%b%8%e! <%KH$N%3% s% ]! <%M% s%H(MyManipulator.so) $HK BT7A< 0N%3% s
% ]! <%M% s%H(MyManipulatorComp) $ , : n@ . $ 5$ 1$ ^$ 7$ ?! # $ 7$ +$ 7! "$ ^$ @% "% /%F% #% S% F% # $ K2 ?$ b5 =R
$ 7$ F$ $$ J$ $N$ G! "$ 3$N%3% s% ]! <%M% s%H$O2 ?$ b; 6 $ r$ 7$ ^$ ;$ s! # %3% s% ]! <%M% s%H$K9 T$ O$ ;$ ?$ $=h
M}$ r: n@ . $ 5$ 1$ ??w7A$KKd$ a9 ~$ s$ G$ $$ /$ 3$ H$ G! "%3% s% ]! <%M% s%H$ r: n@ . $ 7$ F$ $$ -$ ^$ 9! #
```

3.4.3 %3% s%]! <%M% s%H%N% !=! <%9% 3! <% I\$ r8 +\$F\$ _\$k

`rtc-template` \$K\$h\$C\$F@8@.\$5\$1\$?%3% s%]! <%M% s%H%N% !=! <%9% 3! <% I\$ r8 +\$F\$ _\$F\$/\$@5\$ \$! #HelloRTWorld %3% s%]! <%M% s%H\$G: n@.\$7\$?N\$H\$ [\$\F1\$8\$G! "%3% s%]! <%M% s%HL>! "InPort/OutPort \$NI tJ, \$, ; Øj\$7\$?b\$N\$GCV\$-49\$ (\$i\$1\$?% !=! <%9% 3! <% I\$K\$J\$C\$F\$ \$\$ ^\$9! #

! | `rtc-template` \$K\$h\$j@8@.\$5\$1\$k%U% !%\$%k

<code>MyManipulator.h</code>	<code>MyManipulator %3% s%]! <%M% s%H%N% X% C% @% U% !% \$% k! #</code>
<code>MyManipulator.cpp</code>	<code>MyManipulator %3% s%]! <%M% s%H%N% !=! <%9% U% !% \$% k! #</code>
<code>MyManipulatorComp.cpp</code>	<code>MyManipulator %3% s%]! <%M% s%H%N% 9% ?% s% I% "%m% s%3% s%]! <%M% s%H\$N\$?\$ a\$N% !=! <%9% U% !% \$% k! #</code>
<code>Makefile</code>	<code>%S% k% I\$ 9\$ k\$?\$ a\$ NMakefile! #</code>

\$?\$H\$ (\$P! "%X% C% @ `MyManipulator.h` \$K\$O0J2 <\$N5 =R\$, \$"\$k\$O\$: \$G\$9! #

MyManipulator.h

```
class MyManipulator
: public RTM::RtcBase
{
public:
    MyManipulator(RtcManager* manager);

    // virtual RtmRes rtc_ready_entry();
    // virtual RtmRes rtc_ready_do();
    // virtual RtmRes rtc_ready_exit();
    // virtual RtmRes rtc_active_entry();
    virtual RtmRes rtc_active_do();
    // virtual RtmRes rtc_active_exit();
    // virtual RtmRes rtc_error_entry();
    // virtual RtmRes rtc_error_do();
    // virtual RtmRes rtc_error_exit();
    // virtual RtmRes rtc_fatal_entry();
    // virtual RtmRes rtc_fatal_do();
    // virtual RtmRes rtc_fatal_exit();
    // virtual RtmRes rtc_init_entry();
    // virtual RtmRes rtc_starting_entry();
    // virtual RtmRes rtc_stopping_entry();
    // virtual RtmRes rtc_aborting_entry();
    // virtual RtmRes rtc_exiting_entry();

    TimedFloatSeq m_posin;
    InPortAny<TimedFloatSeq> m_posIn;
    TimedFloatSeq m_posout;
    OutPortAny<TimedFloatSeq> m_posOut;
};
```

\$?\$ /\$ 5\$ sJB\$ s\$G\$ \$\$k `rtc_xxx_yyy()` \$H\$ \$\$ &%a% =%C% I\$ O> BV\$KBPl ~\$9\$ k% a% =%C% I\$ G\$9! #3F> u
BVA+0 \ \$K\$ D\$ \$\$F\$ O! "? ^ 3.7 (p.33) \$N> BVA+0 \ ? ^\$ *\$ h\$ S@hL@ \$r; 2 \$ 7\$ F\$ /\$ @5\$ \$! #

3.4.4 ; HMQ\$ 9\$ k% "% /%F% #%S%F% # \$r7h\$ a\$ k

\$5\$F! "? ^ 3.7 \$N> BVA+0 \ ? ^\$ rGOF, \$K\$ *\$ \$\$F! "% "% /%F% #%S%F% # \$K\$ *\$ \$\$F9T\$ &=hM)\$r7h\$ a\$F\$ \$\$-
\$ ^\$9! #Kd\$a9 ~\$ '%i% \$%V%i% j\$NF0: n\$H> BV\$N0UL# \$r9M\$ (\$J\$, \$i! "3F> BV\$G< B]9T\$ \$\$?\$ \$=hM)\$r3d
\$ jEv\$F\$F\$ /\$ @5\$ \$! #INITIALIZING > BV\$G\$O=i4 |2=! *STARTING > BV\$G\$O ACTIVE > BV\$KF ~\$kd>

A0\$K9T\$&=hM}!"ACTIVE > BV\$G\$O%a%\$%s\$H\$J\$k< 4 |=hM}!"STOPPING > BV\$G\$O ACTIVE > BV\$+\$i
BT5 (READY) > BV\$X0\9T\$9\$k\$H\$-\$K9T\$&\$Y\$-=hM}!"\$H\$ \$\$C\$?7A\$GBP1~\$5\$;\$F\$f\$-\$^\$9! #

\$3\$l\$+\$i:n@.\$9\$k MyManipulator %3% s%]! <%M% s%H\$O3F> BV\$G0J2<\$N\$h\$&\$J=hM}\$r< BT\$9\$k
\$h\$&\$K\$7\$^\$9! #

! | =hM} \$NFhMF

```

rtc_init_entry()      %i %$ %V %i %j $N=i 4 | 2= =h M} $r 9T $& $? $a $K
manipulator_init() $r8F$S=P$9! #
manipulator_init() $O=i4 |2=$, @.8y$ 7$ ?$+$ I$ &$+$r
La$ jCM (bool 7?) $GCN$ i$;$k$b$N$H2>Dj$9$k! #
rtc_starting_entry() %^%K%T%e%l! <%?$N%5! <%\$r ON $K$9$k$?$a$K! "
manipulator_on() $r8F$S=P$9! #
manipulator_on() $O%5! <%\ON $N=hM}$, @.8y$ 7$ ?$+
$I$ &$+$rLa$ jCM (bool 7?) $GCN$ i$;$k$b$N$H2>Dj$9$k! #
rtc_stopping_entry() %^%K%T%e%l! <%?$N%5! <%\$r OFF $K$9$k$?$a$K! "
manipulator_off() $r8F$S=P$9! #
manipulator_off() $O%5! <%\OFF $N=hM}$, @.8y$ 7$ ?
+$ $ I$ &$+$rLa$ jCM (bool 7?) $GCN$ i$;$k$b$N$H2>Dj$9
$k! #
rtc_active_do()      %^%K%T%e%l! <%?$K InPort $+$iF~$C$F$-$?0LCV; Na
$r manipulator_setpos() $G@_Dj$7! "8=:_0LCV$r
manipulator_getpos() $G< E@ $7 OutPort $K=PNO$9
$k! #
rtc_aborting_entry() RTC_ACTIVE > BV$G2 ?$ i$+$N% (%i! <$, @8$86 $ Dd; $r$5
$;$k$ ?$a manipulator_emgstop() $r8F$S=P$9! #
rtc_exiting_entry()  %3% s% ]! <%M% s%H$N= *N;=hM}! #% j%=! <%9$r3+J |$9$k$ ?$a
$Kmanipulator_destroy() $r8F$S=P$9! #

```

3.4.5 <BAu

0J> \$N\$h\$&\$K3F> BV\$G9T\$&\$3\$H\$r7hdj\$7\$?\$i! "\$=\$l\$>\$l\$N> BV\$KBPl ~\$9\$k%a%=%C% I\$r< Bu\$7
\$F\$ \$\$-\$^\$9! #

0BA4\$J%3% s%]! <%M% s%H\$r:n@ . \$9\$k\$?\$a\$K\$O! "% (%i! <\$rE, @Z\$K=hM}\$9\$k\$3\$H\$,BgJQ=EMW\$H\$J\$ j
\$^\$9! # \$I\$N\$h\$&\$J> \$g\$K ERROR > BV\$KA+0\ \$5\$;! "\$I\$N\$h\$&\$J> \$g\$K\$O FATAL_ERR > BV\$KA+0\
\$5\$;\$k\$+\$r\$h\$/9M\$ (\$F< Bu\$7\$^\$7\$g\$&! #

>uBV: RTC_INITIALIZING, %a%=%C%I: rtc_init_entry() \$N<BAu

MyManipulator.h

```
virtual RtmRes rtc_init_entry();
```

=PNO\$5\$1\$??w7A\$G\$O%3% a% s%H\$r\$O\$:\$9\$ @ \$1\$G\$9! #

MyManipulator.cpp

```
RtmRes MyComponent::rtc_init_entry()
{
    if (!manipulator_init())
    {
        return RTM_ERR;
    }
    return RTM_OK;
}
```

```
$ 3$ 3$ G$ O! "manipulator_init() $NL a$ jCM$ r8 +$ F! "true $ G$ "$ 1$ P! "RTM_OK $ rJV$ 7$ F$ $$ ^$ 9! #
> BV$ KBP1 ~$ 9$ k% a% =% C% I$ G$ O! "La$ jCM RtmRes $ K0 J2 <$ NCM$ r$ H$ j$ ^$ 9! #
```

```
! | = *N; > uBV$ HL a$ jCM
```

```
RTM_OK :          @5> @ *N;
RTM_ERR :         % (%i! <= *N;
RTM_FATAL_ERR :   CWL ?E *% (%i! <= *N;
```

```
@5> @ *N; $ G$ O! "$ = $ N$ ^$ ^< $ N> BV$ XA+0 \ $ 7$ ^$ 9! # $ 3$ N> 9$ G$ O! " RTC_READY > BV$ KA+0 \ $ 7
$ ^$ 9! # % (%i! <= *N; $ 9$ k$ H% (%i! < > BV$ KF ~$ j$ ^$ 9! # % (%i! < > BV$ G$ O! "3 0I t$ +$ i: FE Y=i4 |2=$ 9$ k$ 3
$ H$ K$ h$ j RTC_INITIALIZE > BV$ KL a$ k$ 3$ H$ , $ G$ - $ ^$ 9! # CWL ?E *% (%i! <= *N; $ N> 9$ G$ O! "I |5 9$ G$ -
$ ^$ ; $ s! #5 9$ K! "I |5 1 T2 DG=$ J% (%i! <$ H$ 7$ F=hM} $ 7$ ?$ $ > 9$ G$ K$ O! "CWL ?E *% (%i! < > BV$ XA+0 \ $ 5$ ;
$ ^$ 9! #
```

```
> uBV: RTC_STARTING, %a%=%C%I rtc_starting_entry() $N<BAu
```

MyManipulator.h

```
virtual RtmRes rtc_starting_entry();
```

```
=FNQ$ 5$ 1$ ?? w7A$ G$ O% 3% a% s% H$ r$ O$ :$ 9$ @ $ 1$ G$ 9! #
```

MyManipulator.cpp

```
RtmRes MyComponent::rtc_starting_entry()
{
    if (!manipulator_on())
    {
        return RTM_ERR;
    }
    return RTM_OK;
}
```

```
manipulator_on() $NL a$ jCM$ Kl ~$ 8$ F RTM_OK $^$ ?$ O RTM_ERR $ rJV$ 7$ ^$ 9! #
```

```
>uBV: RTC_STOPPING, %a%=%C% I: rtc_stopping_entry() $N<BAu
```

MyManipulator.h

```
virtual RtmRes rtc_stopping_entry();
```

```
=PNO$ 5$ 1$ ??w7A$ G$ C% 3% a% s% H$ r$ O$ :$ 9$ 0$ 1$ G$ 9! #
```

MyManipulator.cpp

```
RtmRes MyComponent::rtc_stopping_entry()
{
    if (!manipulator_off())
    {
        return RTM_ERR;
    }
    return RTM_OK;
}
```

```
manipulator_off() $NL a$ jCM$ Kl ~$ 8$ F RTM_OK $^$ ?$ O RTM_ERR $ rJV$ 7$ ^$ 9! #
```

```
>uBV: RTC_ACTIVE, %a%=%C% I: rtc_active_do() $N<BAu
```

MyManipulator.h

```
virtual RtmRes rtc_active_do();
```

```
=PNO$ 5$ 1$ ??w7A$ G$ C% 3% a% s% H$ r$ O$ :$ 9$ 0$ 1$ G$ 9! #
```

```
< $Krtc_active_do() $r< Bu$ 7$ F$ $$-$ ^$ 9! #
```

```
rtc_active_do() $G$ O%^%K%T%e%l!<%?$K InPort $+$iF~$C$F$-$?0LCV; Xa$r
manipulator_setpos() $G@_Dj$7! "8=:_0LCV$r manipulator_getpos() $G< F@ $7 Out-
Port $K=PNO$ 7$ ^$ 9! #InPort $Om_posIn.read() $K$h$ j%G! <%?$rFI$ _9~$ _$ ^$ 9! #
```

MyManipulator.cpp

```

RtmRes MyComponent::rtc_active_do()
{
    float pos_in[6];
    float pos_out[6];

    // InPort $+$i%G! <% F I$ _9~$ _
    m_posin = m_posIn.read();

    // InPort $K5 D j? t$N%G! <? ?$,F~$C$F$ $$k$ +3NG '
    if (m_posin.data.length() == 6)
    {
        for (int i = 0; i < 6; i++)
        {
            pos_in[i] = m_posin.data[i];
        }
        // 0LCV%G! <% ?$r%;%C%H
        if (!manipulator_setpos(pos_in))
        {
            return RTM_ERR;
        }
    }

    // 8=:_0LCV$r< E@
    if (!manipulator_getpos(pos_out))
    {
        return RTM_ERR;
    }

    // OutPort $K=PNO
    m_posout.data.length(6);
    for (int i = 0; i < 6; i++)
    {
        m_posout.data[i] = pos_out[i];
    }
    m_posOut.write(m_posout);

    return RTM_OK;
}

```

TimedFloatSeq 7?(\$H\$=\$NB>\$N% 7! <%1%\$%97?) \$O9=B\$BN\$G! "; 4Vtm \$H%G! <? ?data \$N%a%\$%P
 \$r; \$A\$ ^\$9! #data \$O% 7! <%1%\$%97?\$K\$J\$C\$F\$ \$\$F! "

! | InPort/OutPort %G! <% ?7 ?\$X\$N% "%/%;%9

m_poin.data[1]	E:\$ (; \$K\$h\$k% "%/%;%9
m_posin.data.length()	MWAG?t\$N< E@
m_posin.data.length(10)	NN0h\$N3NJ]

\$J\$ I\$,9T\$ (\$^\$9! #OutPort \$bFIMM\$G! "manipulator_getpos() \$G% ^%K%T%e%l! <% ?\$N< @h0LCV
 \$rG [N\$H\$ 7\$F< E@ \$ 7\$?\$ "\$H\$K! "m_posout \$K%G! <% ?\$r%3%T! <\$ 7! ":@e\$K

m_posOut.write(m_posout);

\$K\$h\$j OutPort \$K=ENC\$ 7\$F\$ \$\$ ^\$ 9! #InPort, OutPort \$N%a%=%C% I\$N> \Y\$O% ^%K%e% "%k\$b\$ 7\$ /
 \$O%!=! <% 9% 3! <% I\$ r8 +\$F\$ /\$ @ \$ 5\$ \$! #

>uBV: RTC_ABORTING, %a%=%C% I: rtc_aborting_entry() \$N<BAu

MyManipulator.h

```
virtual RtmRes rtc_aborting_entry();
```

=ENC\$ 5\$ 1\$??w7A\$ G\$O% 3%a% s%H\$ r\$O\$:\$ 9\$ @ \$ 1\$ G\$ 9! #

MyManipulator.cpp

```
RtmRes MyComponent::rtc_aborting_entry()
{
    if (!manipulator_emgstop())
    {
        return RTM_FATAL_ERR;
    }
    return RTM_OK;
}
```

RTC_ACTIVE > BV\$C% (%i! <\$,H/@8\$ 7\$?> 9g! "6 \$ Dd; \$ 7\$ J\$ 1\$ 1\$ P\$ J\$ i\$ J\$ \$\$ H2 >D j\$ 7\$ ^\$ 9! # \$=
 \$ 3\$ G! "rtc_aborting_entry() \$ Gmanipulator_emgstop() \$ r8F\$ S=P\$ 7\$ ^\$ 9! #L a\$ jCM\$ KL ~\$ 8\$ F
 RTM_OK \$ ^\$?\$ O RTM_ERR \$ rJV\$ 7\$ ^\$ 9! #

>uBV: RTC_EXITING, %a%=%C% I: rtc_exiting_entry() \$N<BAu

MyManipulator.h

```
virtual RtmRes rtc_exiting_entry();
```

=ENC\$ 5\$ 1\$??w7A\$ G\$O% 3%a% s%H\$ r\$O\$:\$ 9\$ @ \$ 1\$ G\$ 9! #

MyManipulator.cpp

```
RtmRes MyComponent::rtc_exiting_entry()
{
    manipulator_destroy();
    return RTM_OK;
}
```

%j%!=! <% 9\$ r3 +J |\$ 7\$ ^\$ 9! # \$ 3\$ N> BV\$ G\$ O= *N; \$ 9\$ kB>\$ J\$ \$\$?\$ a RTM_OK \$ 7\$ +JV\$ 7\$ ^\$;\$ s! #

3.4.6 make \$ *\$h\$ S<B9T

%=! <%9\$,40@ . \$ 7\$?\$ i! ":F\$ Smake \$ 7\$ ^\$ 9! #manipulator % i% \$% V% i% j\$ r% j% s% /\$ 9\$ k\$?\$ a\$ KMake-
file.MyManipulator \$r=q\$ -4 9\$ (\$ kI ,MW\$, \$ "\$ k\$ +\$ b\$ 7\$ l\$ ^\$;\$ s! #

```
> make -f Makefile.MyManipulator
```

```
< BT7A< @N% 3% s% ]! <%M% s%H$ r< BT$ 7$ F$ _$ ^$ 9! #% 3% s% ]! <%M% s%H$ N< BT$ K$ O% 3% s% U% #% .% e% l! <
% 7% g% s% U% !% $% k(DL> $Ortc.conf $H$ $$ &L>A0) $ ,I,MW$ G$ 9! #@ 5< @J% 3% s% U% #% .% e% l! <% 7% g% s% U% !
% $% k$ OOpenRTM $N%=! <%9$Netc/rtc.conf.sample $r; 2M$ K$ 7$ F$ /$ @ $ 5$ $! # $ 3$ 3$ G$ O! "4J0W
HG$ N$ b$ N$ r% +% l% s% H% G% #% l% /% H% j$ K: n@ . $ 7$ ^$ 9! #
```

```
NameServer      8=:_$NPC $N% [%9%HL>: %]! <%HV9 f
```

```
$ 3$ 3$ G! "2>$K% [%9%HL>! 'rtm.or.jp %]! <%HV9 f6789 $H$ 7$ ^$ 9! #
```

```
> cat > rtc.conf
NameServer      rtm.or.jp:6789 ($ 3$ N$ h$ &$ KF ~NO$ 9$ k)
\verb|^|D(Ctrl+D)
> cat rtc.conf (3NG')
NameServer      rtm.or.jp:6789
```

```
< $K! "CORBA $N%M! <%_ % s% 0% 5! <%S% 9$ r5 7'0$ 7$ ^$ 9! #CORBA $N%M! <%_ % s% 0% 5! <%S% 9$ O! "
```

```
> rtm-naming %]! <%HV9 f
```

```
$ G5 7'0$ G$ - $ ^$ 9$ N$ G! "@h$ [$ Irtc.conf $G; @j$ 7$ ?% ]! <%HV9 f$ r; @j$ 7$ F5 7'0$ 7$ F$ /$ @ $ 5$ $! #
```

```
> rtm-naming 6789
```

```
Starting omniORB omniNames: ichi:9999
```

```
n-ando@ichi:/tmp/SampleComponent>
```

```
Fri Oct 29 17:12:51 2004:
```

```
Starting omniNames for the first time.
```

```
Wrote initial log file.
```

```
Read log file successfully.
```

```
Root context is IOR:010000002b00000049444c3a6f6d672e6f72672f436f734e616d696e672f
```

```
4e616d696e67436f6e746578744578743a312e30000001000000000000060000000010102000e00
```

```
00003135302e32392e39362e313638000f270b0000004e616d655365727669636500020000000000
```

```
0000080000000100000000545441010000001c000000010000000100010001000000010001050901
```

```
010001000000009010100
```

```
Checkpointing Phase 1: Prepare.
```

```
Checkpointing Phase 2: Commit.
```

```
Checkpointing completed.
```

```
< $K! "%3%$%!<%M%$%H$r5 70$ 7$ ^$ 9! # $ 3$ N% 3% $%!<%M%$%H$O! "0LCV; Ma$r< @1< k$ 3$ H$G=i  
$ a$FF0:n$ 9$k% 3% $%!<%M%$%H$G$ 9$N$G! "5 70$ 7$ ?$ @ $ 1$ G$ Q2 ?$ b5 $ 3$ j$ ^$ ;$ s! #> 5 $ HF1MM$N< j  
=g$G! "0LCV; Ma$rM?$ ($k% 3% $%!<%M%$%H$H! "8=_0LCV$r< @1< k% 3% $%!<%M%$%H$J$ I$r:n@.$ 7  
$=$ 1$ i$ r@ \B3$ 9$k$ 3$ H$G! "% 7% 9%F% '$r9=@.$ 7$ ^$ 9! #
```

```
> MyManipulatorComp -f rtc.conf
```

Bh4>O OpenRTM-aist %D! <%k

K\> @G\$O! "OpenRTM-aist \$KIUB0\$N%D! <%k\$K\$D\$ \$\$F@bL@ \$ ^\$9! #OpenRTM-aist \$K\$O3+H/\$r%5
%]! <%H\$9\$k\$?\$a\$N%D! <%k72\$,,\$ \$\$ /\$D\$ +MQOU\$5\$1\$F\$ \$\$ ^\$9! # \$ ^\$@! "4pK\E *\$J%D! <%k\$7\$ +\$ "\$j\$ ^\$;
\$s\$,! " : #8e%f! <%6\$NMWK>\$K1h\$ &7A\$GA }\$d\$7\$F9T\$ /M=Dj\$G\$9! #

4.1 RTCLink

RT %3% s%]! <%M% s%H\$ rAH\$_9g\$ o\$;\$F% 7%9%F% '\$r9=C [\$9\$ k\$K\$O\$ \$\$ /\$D\$ +\$N\$J \$K !\$, \$ "\$j\$ ^\$9! #

- GUI \$K\$h\$k\$J \$K!
- XML \$K\$h\$k\$J \$K!
- %9%/%j\$W% H\$K\$h\$k\$J \$K!
- %3% s%]! <%M% s%H\$ +\$i\$ND>@ \% "%/% ;%9
- DL> \$N% "%W% j%1! <%7%g\$ s\$ +\$i\$ND>@ \% "%/% ;%9

\$3\$N\$ &\$A! "\$b\$C\$H\$bD>46E*\$G\$o\$ +\$j\$d\$9\$ %7%9%F% '9=C [K !\$O\$3\$1\$ +\$i@bL@ \$9\$kGUI(RTCLink)
\$K\$h\$K9=C [J \$K !\$G\$9! # \$3\$N\$J \$K !\$O%3% s%]! <%M% s%H\$NInPort/OutPort \$r% ^%&%9\$K\$h\$k\$I% i%C%0
% "%s% I% I% m% C%W\$G@ \B3\$7! "GUI \$ +\$i\$NA ': n\$G%3% s%]! <%M% s%H\$NON/OFF \$r9T\$ &\$3\$H\$K\$h\$j%7
%9%F% '\$rAH\$_N)\$FF0: n\$5\$;\$k\$3\$H\$,=FMh\$ ^\$9! #D>46E*\$G\$o\$ +\$j\$d\$9\$ /! "%7%9%F% '\$NAH\$_49\$ (\$b
4JC1\$K9T\$ (\$k\$?\$a! "%3% s%]! <%M% s%H\$N\$F%9%HCJ3 , \$d% 7%9%F% '9=C [\$N\$F%9%HCJ3 , \$K\$h\$jE , \$7\$F\$ \$
\$k\$J \$K !\$G\$9! #

4.1.1 F0:n>r7o

RTCLink \$O Python \$N%D! <%k%-%C%H\$N\$R\$H\$D\$G\$ "\$k wxPython \$G5 =R\$5\$1\$F\$ \$\$ ^\$9! # \$7\$?
\$, \$C\$F! "Python \$H wxPython \$,F0: n\$9\$k4D6 \$G\$ "\$1\$F\$I\$NOS > \$G\$bF0: n\$5\$;\$k\$3\$H\$,=FMh
\$ ^\$9! #

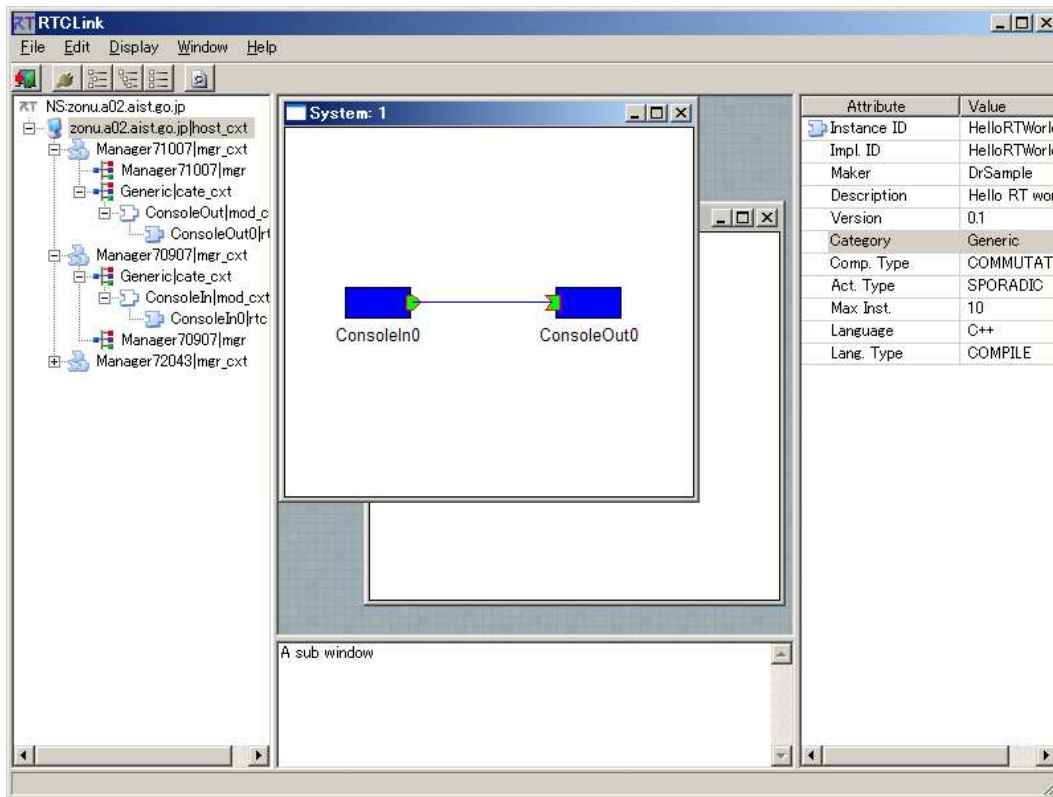
F0:n> 7o\$O0J2<\$N\$H\$*\$j\$G\$9! #

! | RTCLink F0:n>r7o

Python	Python 2.3 0J> e
wxPython	wxPython 2.5.1.5u
OpenRTM	aist-0.2.0 0J> e

4.1.2 5/F0

RTCLink \$r5 7 0\$ 5\$;\$ k\$ H? ^ 4.1 \$N\$ h\$ &\$ J% &% \$% s% I% &\$,8=\$ 1\$ ^\$ 9! #



?^ 4.1: RTCLink

RTCLink \$CBg\$-\$ /J,\$ 1\$ F0 J2 <\$N4 \$D\$N% &% \$% s% I% &\$ +\$ i9 =@ . \$5\$ 1\$ F\$ \$ \$ ^\$ 9! #

- %M! <_%s% 0% &% \$% s% I% &
- %m% 0% &% \$% s% I% &
- %W% m% U% !% \$% k% &% \$% s% I% &
- % 7% 9% F% ' % I% m! <_% &% \$% s% I% &

4.1.3 %M! <_%s% 0% &% \$% s% I% &

: 8B &\$N% &% \$% s% I% &\$ O% M! <_%s% 0% 5! <_%s% 9\$ KEFO ?\$ 5\$ 1\$ F\$ \$ \$ k% 3% s%]! <_%m% s% H% M! <_% 'D% j! <\$ rI =
< \$ 9\$ k% &% \$% s% I% &\$ G\$ 9! # 3% s%]! <_%m% s% H\$ O5 7 0\$ 5\$ 1\$ k\$ H= jD j\$ N% M! <_%s% 0% 5! <_%s% 9 (@_D j% U% !% \$
%k! 'DL> \$Ortc.conf \$K5 =F\$ 5\$ 1\$ F\$ \$ \$ k% M! <_%s% 0% 5! <_%s% 9) \$K< F,\$NL>A0\$ rEFO ?\$ 7\$ ^\$ 9! #M! <
%_s% 0% &% \$% s% I% &\$ G\$ O\$ = \$NL>A0\$ r8 +\$ k\$ 3\$ H\$,=FMh\$ ^\$ 9! #

L>A0\$ NEFO ?\$N; E }\$ K\$ O2 \$D\$N< N '\$,\$ "\$ j\$ ^\$ 9! #

! | L>A0\$ NEFO ?\$N; EJ }


```

%mk s%0%M! <% ' % [%9%H%3% s%F%-9%H/%^%M! <%8% c%3% s%F%-9%H/%+%F%4% j%3% s%F%-9%
%H/%b%8%e! <%k%3% s%F%-9%H/%3% s% ]! <%M% s%H$ +$ i$ J$ k3 ,AX$ K$ h$ jD j
5 A5$ l$ kL>A0! #0 l0 Ue-$ ,J ]> $5$ l! "L>A0$ ,> WM$ 9$ k$ 3$ H$ O$ J$ $! #G
%U% )%k% H$ G$ O$ 3$ NL>A0$ ,%M! <% '5! <%S% 9$ KEFO ?$ 5$ l$ ^$ 9! #
% ( % $ % j% "%9 %3% s% ]! <%M% s%H$ NU LL>! #f! <%6$ ,G$0 U$ N3 ,AX9=B$ $ GL>A0$ rEFO ?$ 9$ k
$ 3$ H$ ,=EMh$ k! #b$ A$ m$ s! "3 ,AX2=$ 7$ J$ $EFO ?$ b2 DG=! # $ ?$ Q$ 7! "0 l0 Ue-
$ QJ ]> $5$ l$ J$ $ $ ?$ a$ f! <%6$ ,L>A0$ N> WM$ r5 $ 3$ 5$ J$ $ $ h$ &$ K9 MN8$ 9
$ kI ,MW$ , $ " $ k! #b$ 7L>A0$ N> WM$ ,H / @ 8$ 7$ ?> Qg$ K$ O! "8E$ $ % *V% 8% '
% /% H$ O? 7$ 7$ $ % *V% 8% ' % /% H$ G> eQ$ -$ 5$ l$ k! #

```

```

% ( % $ % j% "%9$ NEFO ?$ N; E ) $ O RtcBase % /% i% 9% j% U% !% l% s% 9 appendAlias() $N9 '$r; 2 B 7$ F$ /
$ Q$ 5$ $ #

```

4.1.3.1 %M! <% '5! <%P\$ X\$ N@ \B3

```

5 f0; + "RTCLink $O%G%U% )%k% H$ N%M! <% '5! <%P$ X@ \B3$ 7$ ^$ 9! #G%U% )%k% H$ N%M! <% '5! <%P
$ O! " : G e$ K@ \B3$ 7$ ?%M! <% '5! <%P (MzNr%U% !% $% k$ ,B8: _$ 9$ k> Qg) $ b$ 7$ /$ O! "%m! <% +%k% [%9%H> e
$ N%M! <% '5! <%P$ K$ J$ j$ ^$ 9! #

```

```

8=: _@ \B3$ 7$ F$ $ $ k%M! <% '5! <%P$ O% D% j! <$N% k! <%H% "% $% F% '$N% i% Y% k$ H$ 7$ FT<= $ 5$ l$ F$ $ $ ^$ 9! #

```

```

8=: _$H0 [$ J$ k%M! <% '5! <%P$ X@ \B3$ 7$ ?$ $> Qg$ K$ O! "

```

```

! | %M! <% '5! <%P$ X$ N@ \B3

```

```

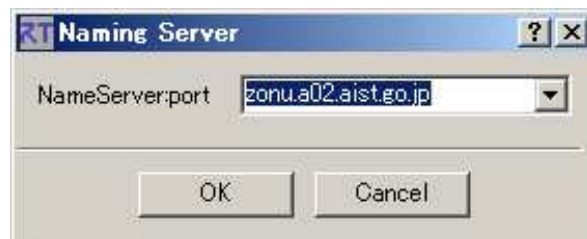
%D! <%k%P! <> $N %\% ?% s$ r2 !$9
%a%K%e! <%P! <$N! vFile!w! vConnect Name Server!w$ rA *Br$ 9$ k
%M! <%_s%0%D% j! <$N% k! <%H% "% $% F% '> $G l &% /% j% C% /$ 7 !vConnect!W $ rA *Br$ 9$ k

```

```

$N$ $ $ :$ l$ +$ NJ )K !$ G%M! <% '5! <%P@ \B3% @% $ "%m% 0$ rI<= $ 5$ ;$ ^$ 9 ( ? ^ 4.2 ) ! #

```



```

? ^ 4.2: %M! <% '5! <%P@ \B3% @% $ "%m% 0

```

```

@ \B3$ 7$ ?$ $ %M! <% '5! <%P$ N% "% I% l% 9$ H% ]! <%HV9 f$ r name_server:port $N7A< $GF~N0$ 7OK
$ r2 !$ 9$ H@ \B3$ 5$ l$ ^$ 9! # ]! <%HV9 f$ ,> N, $ 5$ l$ ?> Qg omniORB $N%G%U% )%k% H$ N%M! <% '5! <%S
% 9% ]! <%HV9 f$ ,; MQ$ 5$ l$ ^$ 9! #

```

4.1.3.2 %"%\$%F%'\$H%3%\$%F%-9%H%a%K%e! <

%M! <_%\$%0%D%j! < &GI<= \$5\$1\$k% "%\$%F%'\$O0J2<\$N\$h\$*\$j\$G\$9! #



% [%9%H%3%\$%F%-9%H



%^%M! <%8%c%3%\$%F%-9%H



%+%F%4%j%3%\$%F%-9%H



%b%8%e! <%k%3%\$%F%-9%H



%3%\$%j! <%M%\$%H

%M! <_%\$%0%D%j! <\$N% "%\$%F%'> &GI &%/ %j%C%/\$r\$9\$k\$H! "% "%\$%F%'Kh\$N%3%\$%F%-9%H%a%K%e! <
\$,I<= \$5\$1\$^\$9! #

3F% "%\$%F%'\$K\$*\$1\$k%3%\$%F%-9%H%a%K%e! <\$O0J2<\$N\$h\$&\$K\$J\$C\$F\$ \$\$ ^\$9! #

! | %^%M! <%8%c%3%\$%F%-9%H (L,\$<BAu)

Create %3%\$%j! <%M%\$%H\$N%8%.

Load %b%8%e! <%k\$N%<%I

Delete %M! <_%\$%0%3%\$%F%-9%H\$N: O= |

! | %b%8%e! <%k%3%\$%F%-9%H (L,\$<BAu)

Create %3%\$%j! <%M%\$%H\$N%8%.

Delete %M! <_%\$%0%3%\$%F%-9%H\$N: O= |

! | %3%\$%j! <%M%\$%H

Start %3%\$%j! <%M%\$%H\$N%5 %0

Stop %3%\$%j! <%M%\$%H\$N%D; _

Reset %3%\$%j! <%M%\$%H\$N%j% ;%C%H

Exit %3%\$%j! <%M%\$%H\$N=%*N;

Kill %3%\$%j! <%M%\$%H\$N%6 %)=*N;

Delete %M! <_%\$%0%3%\$%F%-9%H\$N: O= |

Profile %3%\$%j! <%M%\$%H\$N%U% !%\$%k

4.1.4 %m%0%&%\$%\$%I%&

OpenRTM \$G\$O%M! <% '5! <%S%9\$N%M! <% '9%Z! <%9F'b\$K%0%m! <%P%k\$J%N%0< +8%3%\$%j! <%M%\$%H
(GlobalLogger) \$r%H%C%W%1%Y%k\$K\$*\$/\$3\$H\$,=FMh\$^\$9! #5\$1\$K! "%3%\$%j! <%M%\$%H\$+\$i=FNQ\$5\$1

\$k%mk 0% a% C% ; ! < % 8\$ r\$ 3\$ N%mk 0< 3% 3% s%] ! < % M% s% H\$ K=8\$ a\$ k\$ 3\$ H\$,=FMh\$ ^\$ 9! # %mk 0% &% \$% s% I% &\$ O
\$ 3\$ N GlobalLogger \$KF ~NO\$ 5\$ 1\$?%mk 0% a% C% ; ! < % 8\$ rI =< \$ 9\$ k\$ 3\$ H\$ G! "A 4\$ F\$ N% 3% s%] ! < % M% s% H\$,
=FNO\$ 9\$ k%mk 0% a% C% ; ! < % 8\$ r> 4F; \$ 9\$ k\$ 3\$ H\$,=FMh\$ ^\$ 9! #

4.1.5 %W%mk U% !% \$%k% &% \$% s% I% &


% 3% s%] ! < % M% s% H\$ N%W%mk U% !% \$%k\$ rI =< \$ 9\$ k% &% \$% s% I% &\$ G\$ 9! #I =< \$ 5\$ 1\$ k%W%mk U% !% \$%k\$ O0J2<
\$N\$H\$ *\$ j\$ G\$ 9! #


Instance ID	% 3% s%] ! < % M% s% H% \$% s% 9% ?% s% 9ID (% 3% s%] ! < % M% s% HL>)
Implementation ID	% 3% s%] ! < % M% s% H% K BuID (% b% 8% e! < % kL>)
Maker	% 3% s%] ! < % M% s% H\$ N: n@ .< T
Description	% 3% s%] ! < % M% s% H\$ N3 5MW@bL@
Version	% 3% s%] ! < % M% s% H\$ N% P! < % 8% g% s
Category	% 3% s%] ! < % M% s% H\$ N% +% F% 4% j
Component Type	% 3% s%] ! < % M% s% H% ?% \$% W
Activity Type	% "% /% F% #% S% F% #% ?% \$% W
Max Instance	: GBg\$N% \$% s% 9% ?% s% 9? t
Language	% 3% s%] ! < % M% s% H5 =R8 @8 l
Language Type	% 3% s%] ! < % M% s% H5 =R8 @8 l% ?% \$% W
InPort Profile	InPort \$N%W%mk U% !% \$% k
OutPort Profile	OutPort \$N%W%mk U% !% \$% k

4.1.6 % 7% 9% F% ' % I% m! < % &% \$% s% I% &

C fl {I t\$ O% 7% 9% F% '9=C [\$N\$?\$ a\$ N% 7% 9% F% ' % I% m! < % &% \$% s% I% &\$ G\$ 9! # ^%k% A% &% \$% s% I% & (UNIX \$ G
\$ O% ?% V% &% \$% s% I% &) I =< \$ H\$ J\$ C\$ F\$ \$ \$ ^\$ 9! #

! | % 7% 9% F% ' % I% m! < % &% \$% s% I% &\$ NI =< (

- %D! <%k%P! > \$N  % \ % ?% s\$ r2 ! \$ 9
- %a%K%e! <%P! <\$N! vFile!w!vNew System!w\$ rA *Br\$ 9\$ k

% 7% 9% F% ' % I% m! < % &% \$% s% I% &\$ O! "%D! <%k%P! <\$N  % \ % ?% s\$ r2 ! \$ 9\$ +! "%a%K%e! <%P! <\$N! vFile!w!
!vNew System!w\$ rA *Br\$ 9\$ k\$ 3\$ H\$ G? 75 \$ K3 +\$ /\$ 3\$ H\$,=FMh\$ ^\$ 9! # \$ 3\$ 3\$ K% M! < % _% s% 0% &% \$% s% I% &\$ +
\$ i% 3% s%] ! < % M% s% H\$ r% I% i% C% 0% "% s% I% I% mk C% W\$ 7! "% 7% 9% F% '\$ rAH\$ _N) \$ F\$ F\$ f\$ -\$ ^\$ 9! #


4.1.7 % 7% 9%F% ' % I% m! <% &% \$% s% I% &\$ r% /% j% C% /\$ 7\$ F% D% j! <\$ rE 83 +\$ 7\$ F\$ f\$ -\$ ^\$ 9! #

4.1.7.1 % 3% s%]! <% M% s% H\$ NG [CV

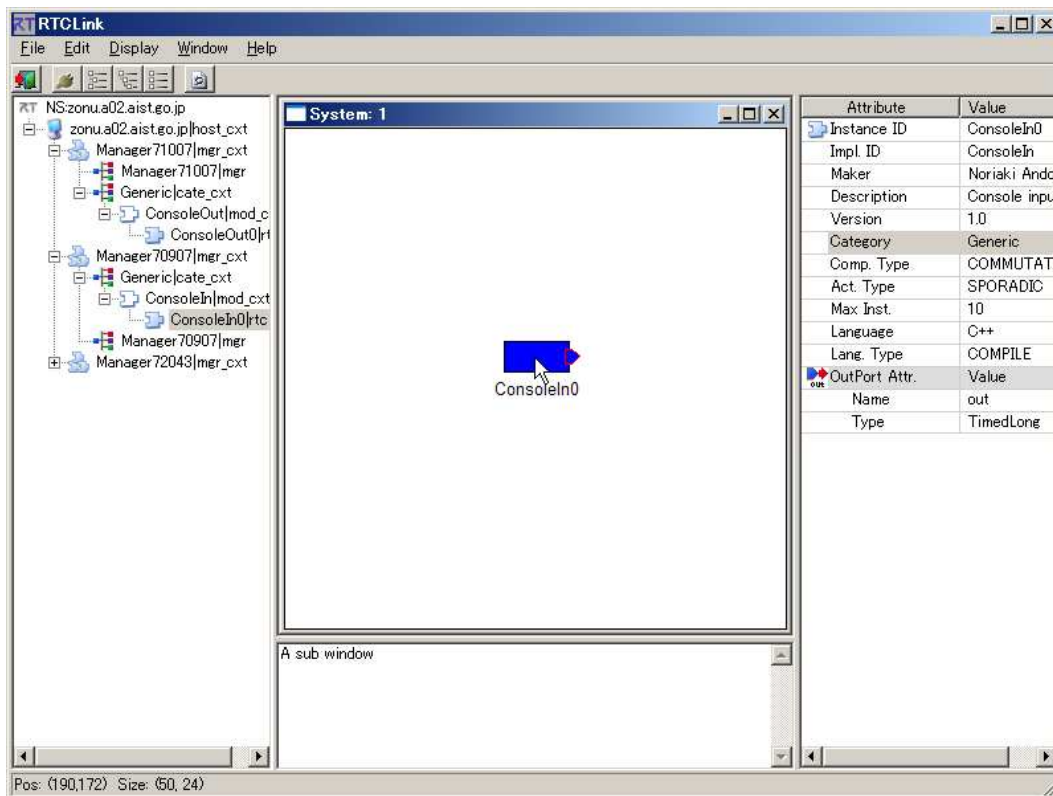
% M! <% _% s% 0% D% j! <% &% \$% s% I% &\$ r% /% j% C% /\$ 7\$ F% D% j! <\$ rE 83 +\$ 7\$ F\$ f\$ -\$ ^\$ 9! #

% D% j! <2hLL> \$ KE v3 :% 3% s%]! <% M% s% HL>\$, \$ J\$ \$> \$ g\$ O! "0 J2 <\$ NE \$ r3 NG ' \$ 7\$ F\$ /\$ \$ 5\$ \$! #

- % M! <% _% s% 0% 5! <% \$% 9\$, 5 F 0\$ 7\$ F\$ \$ \$ k\$ +\$ I\$ &\$ +!) (5 F 05 \$ S%]! <% HV9 f\$ N3 NG ')
- % 3% s%]! <% M% s% H\$, 5 F 0\$ 7\$ F\$ \$ \$ k\$ +\$ I\$ &\$ +!)

% D% j! <2hLL> \$ N% 3% s%]! <% M% s% HL> ( \$ r% ^% &% 9\$ N: 8% \ % ?% s\$ r2 ! \$ 7\$ F% I% i% C% 0\$ 7! "% 7% 9%F% ' % I% m! <% &% \$% s% I% &\$ K% I% m% C% W\$ 7\$ ^\$ 9! # \$ 9\$ k\$ H! "% 3% s%]! <% M% s% H% V% m% C% /\$, I<= \$ 5\$ 1\$ ^\$ 9! #

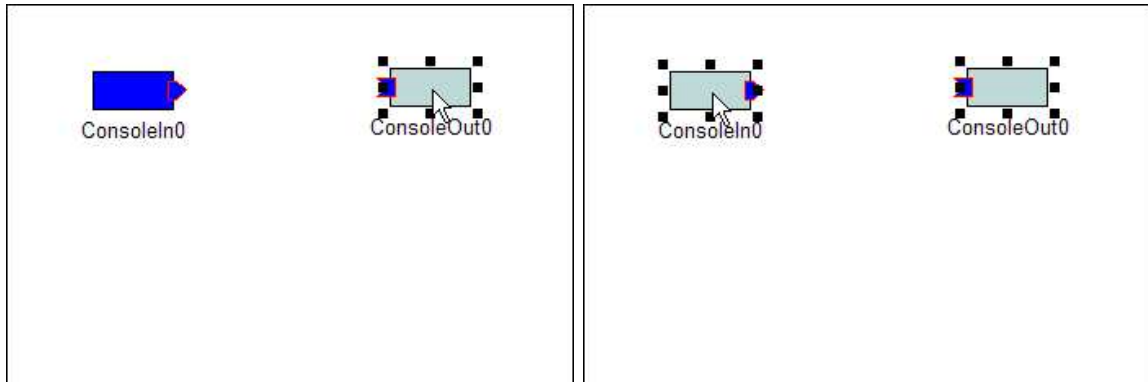
5 F 0\$ 5\$ 1\$ F\$ \$ \$ J\$ \$ \$ 3% s%]! <% M% s% H\$ r% I% i% C% &\$ % I% m% C% W\$ 7\$?> \$ g\$ K\$ O! "9 u\$ \$ % V% m% C% /\$, I<= (\$ 5\$ 1\$ ^\$ 9! #



? ^ 4.3: % I% i% C% 0% "% s% I% I% m% C% W\$ K\$ h\$ k% 3% s%]! <% M% s% H\$ NG [CV! #! ! A02 s\$ N% 7% 9%F% ' 9=C [; \$ K! "% 3 % s%]! <% M% s% H\$ r@ \B3\$ 7\$?\$ ^\$ ^ RtcLink \$ r= *N; \$ 7\$?> \$ g\$ O! "E v3 :% 3% s%]! <% M% s% H\$ rG [CV\$ 7\$?; \$ K! " A02 s\$ N@ \B3> BV\$, : F8 = \$ 5\$ 1\$ ^\$ 9! #

4.1.7.2 RT % 3% s%]! <% M% s% H\$ NA *Br! &0 \F 0! &: o= |

A *Br A *Br \$ 7\$?\$ \$ % 3% s%]! <% M% s% H\$ r% ^% &% 9\$ N: 8% \ % ?% s\$ G% /% j% C% /\$ 7\$ ^\$ 9 (? ^ 4.4) ! # J # ? t\$ NRT % 3 % s%]! <% M% s% H\$ rA *Br \$ 9\$ k\$ K\$ O [Shift % -! <] ! \ [% ^% &% 9\$ N: 8% \ % ?% s\$ G% /% j% C% /\$ 7\$ "B3A *Br \$ 7 \$ ^\$ 9 (? ^ 4.5) ! # % 3% s%]! <% M% s% H\$, A *Br \$ 5\$ 1\$ FA *Br? ' \$ K\$ J\$ j\$ ^\$ 9! #

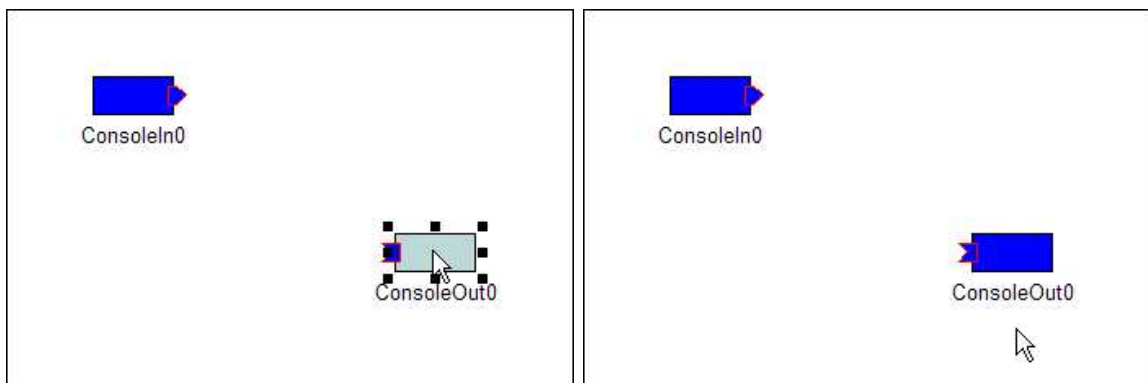


?^ 4.4: %3%s%]! <%M% s%H\$NA *Br

?^ 4.5: J#?t%3%s%]! <%M% s%H\$NA *Br

0\F0 A*Br? '\$N%3%s%]! <%M% s%H\$r% ^%&%9\$N: 8%\%?% s\$G% I%i% C%0\$9\$k\$H0\F0\$9\$k\$3\$H\$,\$G\$-\$^\$9
(?^ 4.6)! #J#?tA*Br\$7\$F\$ \$ \$k> 9g\$O! "A*Br? '\$N%3%s%]! <%M% s%H\$N\$I\$1\$+\$r[% ^%&%9\$N: 8%\
%?%\$] \$G% I%i% C%0\$9\$k\$HA *Br\$5\$1\$? \$9\$Y\$F\$N%3%s%]! <%M% s%H\$rF1; \$K0\F0\$9\$k\$3\$H\$,\$G\$-\$
\$^\$9! #

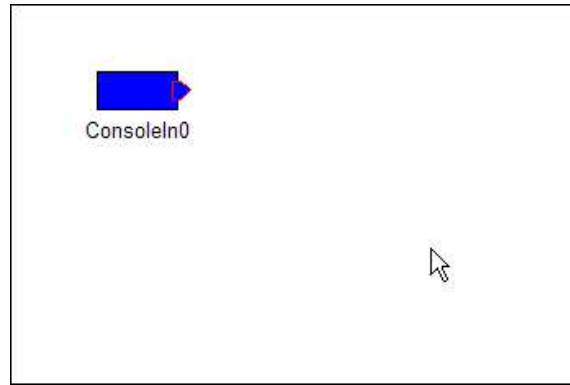
A*Br2r=| RT %3%s%]! <%M% s%H0J30\$NN0h\$G[% ^%&%9\$N: 8%\%?%\$] \$r%/%j%C%/\$9\$k\$H! "A*Br\$,2r=|
\$5\$1\$^\$9(?^ 4.7)! #



?^ 4.6: RT %3%s%]! <%M% s%H\$N0\F0

?^ 4.7: %3%s%]! <%M% s%H\$NA *Br2r=|

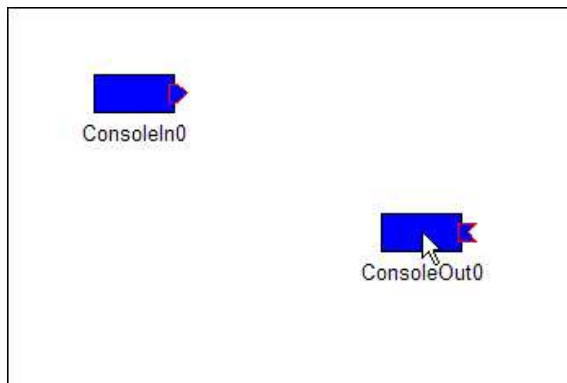
:o=| RT %3%s%]! <%M% s%H> 9G[% ^%&%9\$NL&%\%?%\$] \$r%/%j%C%/\$9\$k\$H%3%s%F%-9%\$H%a%K%e! <\$,I=
< \$5\$1\$^\$9! #a%K%e! <Fb\$N'Delete Item' \$rA*Br\$^\$? \$ODelete %-! <\$r2!\$9\$H! "% ^%&%9%+! <
%=%k\$N2<\$NRT %3%s%]! <%M% s%H\$,System 2hLL> 9+\$i:o=| \$5\$1\$k(?^ 4.8)! #J#?t\$N%3%s%]! <
%M% s%H\$r:o=| \$9\$k> 9g\$O! ":G=i\$K:o=|BP> \$NRT %3%s%]! <%M% s%H\$rA*Br> BV\$K\$7\$^\$9! #<!
\$K%3%s%]! <%M% s%H30\$NN0h\$G[% ^%&%9\$NL&%\%?%\$] \$r%/%j%C%/\$9\$k\$H%3%s%F%-9%\$H%a%K%e! <
\$,I=< \$5\$1\$^\$9\$N\$G! "%a%K%e! <Fb\$N'Delete to Selected Item' \$rA*Br\$^\$? \$ODelete %-! <\$r
2!\$9\$HA*Br? '\$N%3%s%]! <%M% s%H\$, %7%9%F% '%I% m! <%&%\$% s% I%> 9+\$i:o=| \$5\$1\$^\$9! #3\$N:o
=| \$O! "%7%9%F% '%I% m! <%&%\$% s% I%> 9+\$i\$N:o=| \$G\$9\$N\$G! "%3%s%]! <%M% s%H\$=\$N\$b\$N\$, :o=|
\$5\$1\$k\$O\$1\$G\$O\$ "\$j\$^\$;\$s! #



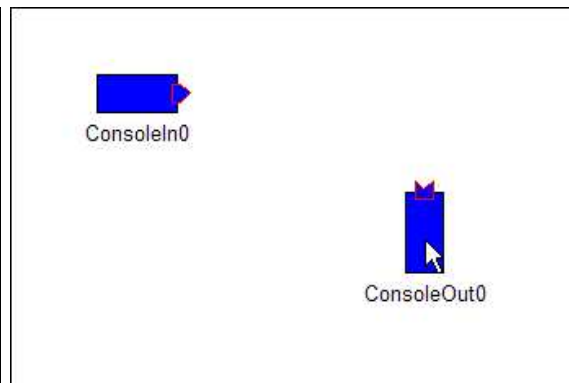
?^ 4.8: %3% s%]! <%M% s%H\$N: o= |

: 8l &H 7E> %3% s%]! <%M% s%H\$r[%^%&%9\$NCf%\%?%s] \$G%/%j%C%/\$9\$k\$H! "%3% s%]! <%M% s%H\$, : 8l &H 7E>
I<= \$5\$lInport \$HOutPort \$N0LCV\$,F~\$lBX\$o\$j\$^\$9(?^ 4.9)!#

2sE> %3% s%]! <%M% s%H\$r[Shift %-!<] !\[%^%&%9\$NCf%\%?%s] \$G%/%j%C%/\$9\$k\$H! "%\$% s%]! <%H\$H% "
%&%H%]! <%H\$N0LCV\$,> @<J}8~\$KF~\$lBX\$o\$k(?^ 4.10)!#

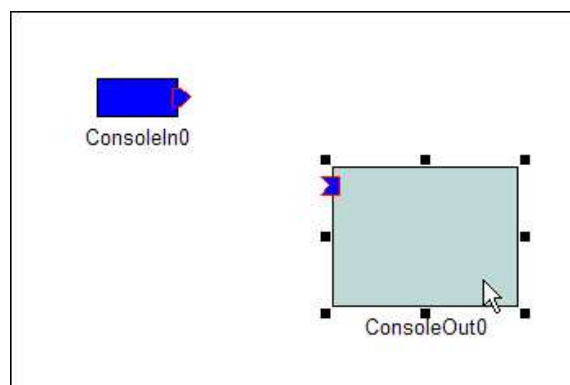


?^ 4.9: %3% s%]! <%M% s%H\$N: 8l &H 7E>



?^ 4.10: %3% s%]! <%M% s%H\$N2 sE>

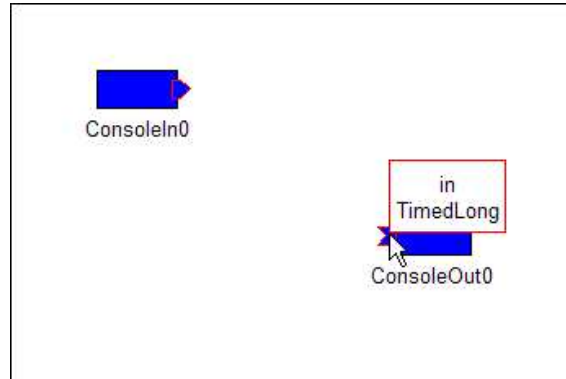
3HBg=L> . %3% s%]! <%M% s%H\$,A*B r> BV\$N; \$KI<= \$5\$l\$k; 8 \$N9u\$E@r[%^%&%9\$N: 8%\%?%s] \$G%I
%i%C0\$9\$k\$H3HBg=L> \$r9T\$&\$3\$H\$, \$G\$-\$^\$9(?^ 4.11)!#



?^ 4.11: %3% s%]! <%M% s%H\$N3HBg=L> .

4.1.7.3 InPort/OutPort \$NL>A0\$H7?>pJ s\$NI=< (

InPort/OutPort \$r[%^%&9\$NL&%\%?%\$] \$G%/%j%C%/\$9\$k\$H! "%]! <%H\$NL>A0\$H7?> p\$,\$I=< \$5\$1
\$^\$9(?^4.12)!#

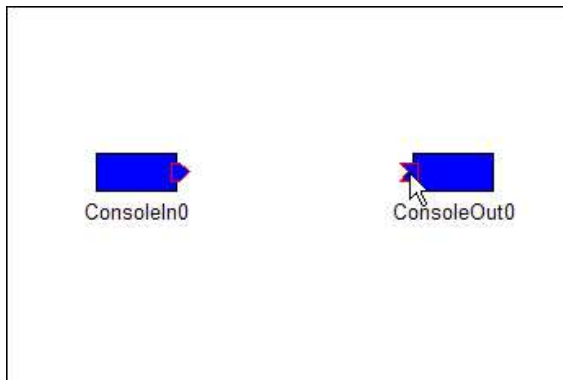


?^4.12: InPort/OutPort \$NL>A0\$H7?> p\$ s\$NI=< (

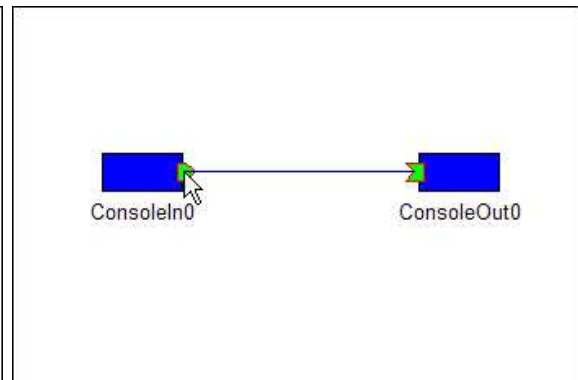
4.1.7.4 %3% s%]! <%M% s%H\$N@ \B3\$H@ \B32r= |

RT %3% s%]! <%M% s%H\$ r@ \B3\$9\$kJ}K!\$O! "0J2<\$N2 DL\$ j\$ "\$ j\$ ^\$9! #

InPort/OutPort \$r%/%j%C%/\$7\$F@ \B3 @ \B385\$N%\$% s%]! <%H\$r[%^%&9\$N: 8%\%?%\$] \$G%/%j%C%/
(?^4.13) \$7\$?8@G! "@ \B3@h\$N% "%&%H%]! <%H\$r[%^%&9\$N: 8%\%?%\$] \$G%/%j%C%/(?^??) \$9
\$k! # %\$% s%]! <%H\$H% "%&%H%]! <%H\$, @~\$G@ \B3\$5\$1\$F@ \B3? '\$K\$J\$ j\$ ^\$9! #

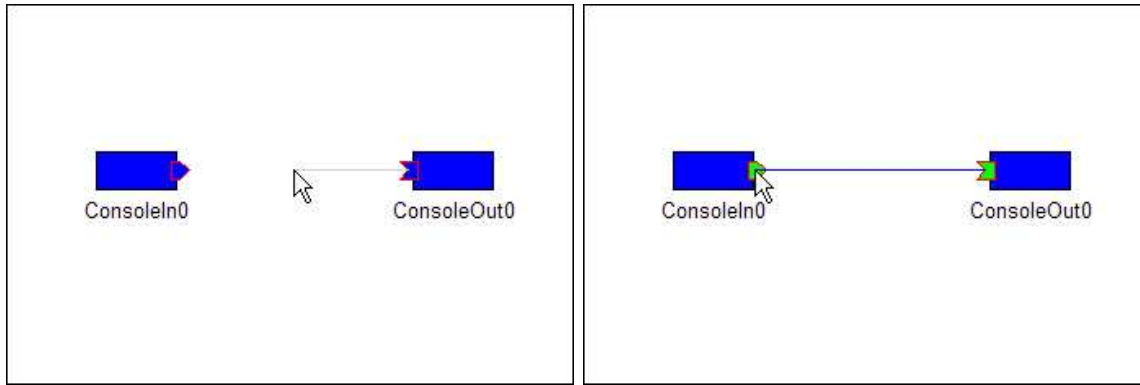


?^4.13: %3% s%]! <%M% s%H\$N@ \B31(a)



?^4.14: %3% s%]! <%M% s%H\$N@ \B31(b)

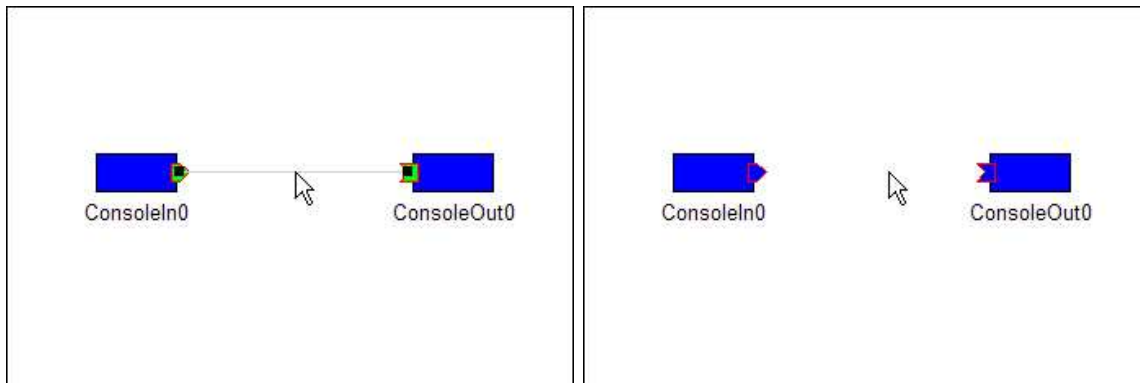
InPort/OutPort 4V\$r%I%i%C%0% "% s%I%I% m%C%W\$G@ \B3 @ \B385\$N%\$% s%]! <%H\$r[%^%&9\$N: 8%\%
?%\$] \$G%/%j%C%/\$7\$?^\$^\$N> BV\$G! "@ \B3@h\$N% "%&%H%]! <%H\$X% ^%&%9%+! <%=k\$ r%I%i%C%0
(?^4.15) \$7\$F! "%\%?% s\$ rN%\$7\$ ^\$9! # %\$% s%]! <%H\$H% "%&%H%]! <%H\$, @~\$G@ \B3\$5\$1\$F@ \B3? '
\$K\$J\$ j\$ ^\$9(?^4.16)!#



?^ 4.15: %3%s%]! <%M% s%H\$N@ \B32(a)

?^ 4.16: %3%s%]! <%M% s%H\$N@ \B32(b)

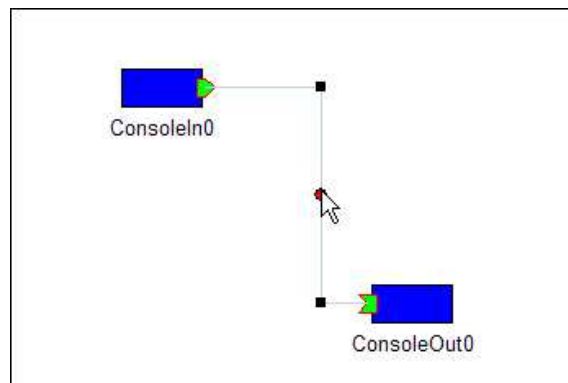
%3%s%]! <%M% s%H\$N@ \B3\$r2r= |\$ 9\$ k @ \B3\$r2r= |\$ 7\$?\$ \$@ ~\$ r [% ^% &% 9\$ N: 8% \% ?% s] \$ G% /% j% C% /\$ 7A *Br
(?^ 4.17) \$ 7\$?8e\$ G! "[Delete % -! <] \$ r2 !2 <\$ 9\$ k (?^ 4.18)! #



?^ 4.17: @ \B3\$N2r= | (a)

?^ 4.18: @ \B3\$N2r= | (b)

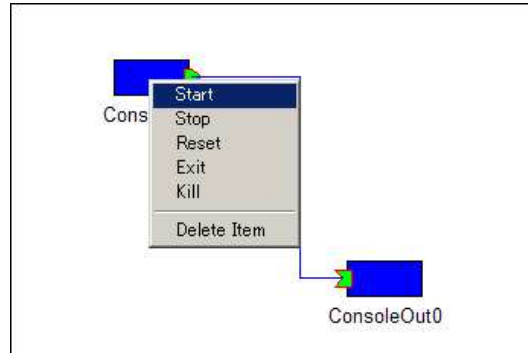
@ \B3\$ 7\$?@ ~\$ r0 \F 0\$ 9\$ k %]! <%H\$ r@ \B3\$ 7\$?@ ~\$,@ ^\$ 1@ ~\$ K\$ J\$ C\$ F\$ \$\$ k; \$ O! " @ ~\$ r0 \F 0\$ 9\$ k\$ 3\$ H\$, \$ G
\$ - \$ ^\$ 9! # @ ~\$ r [% ^% &% 9\$ N: 8% \% ?% s] \$ G% /% j% C% /\$ 9\$ k\$ H! " 0 \F 02 DG= \$ J@ ~\$ N> @ K@ V4]\$, I < \$ 5
\$ 1\$ ^\$ 9! # @ V4] 0 u\$ r [% ^% &% 9\$ N: 8% \% ?% s] \$ G% I% i% C% 0\$ 9\$ k\$ H@ ~\$ r0 \F 0\$ 9\$ k\$ 3\$ H\$, \$ G\$ - \$ ^\$ 9! # ? e
J ?@ ~\$ > @ < J } 8 ~\$ K! " ? bD > @ ~\$ O: 81 & J } 8 ~\$ K0 \F 0\$ G\$ - \$ ^\$ 9 (?^ 4.19)! #



?^ 4.19: @ ^\$ 1@ ~\$ N0 \F 0

4.1.7.5 %3% s%]! <%M% s%H\$NStart/Stop Ey

%3% s%]! <%M% s%H%V% m% C% /> \$G1 &% /% j% C% /\$ r\$ 9\$ k\$ H! "% 3% s% F% -% 9% H% a% K% e! <\$, I=< \$ 5\$ 1\$ ^\$ 9
(? ^ 4.20)! #



? ^ 4.20: %3% s%]! <%M% s%H\$NStart

%3% s% F% -% 9% H% a% K% e! <\$K\$ 00 J2 <\$h\$ &\$ J9 'L \\$, \$ "\$ j\$ ^\$ 9! # \$ 3\$ N% a% K% e! <\$ +\$ i% 3% s%]! <%M% s% H\$ N
Start, Stop Ey\$NA ': n\$ r9 T\$ &\$ 3\$ H\$, =FMh\$ ^\$ 9! #Start \$ 7\$ F\$ \$\$ k> BV\$ GStart %a% K% e! <\$ rA *\$ s\$ 0\$ j! "
Stop \$ 7\$ F\$ \$\$ k> BV\$ GStop %a% K% e! <\$ rA *Br\$ 9\$ k\$ 3\$ H\$ b=FMh\$ ^\$ 9\$, ! "\$ = \$N 9\$ 02 ?\$ b\$ \$ 3\$ j\$ ^\$;\$ s! #

! |%3% s%]! <%M% s%H% 3% s% F% -% 9% H% a% K% e! <

Start	%3% s%]! <%M% s%H\$N5 f' 0
Stop	%3% s%]! <%M% s%H\$NDd; _
Reset	%3% s%]! <%M% s%H\$N% j% ;% C% H
Exit	%3% s%]! <%M% s%H\$N= *N;
Kill	%3% s%]! <%M% s%H\$N6 0)= *N;
Delete Item	%3% s%]! <%M% s%H\$N: o=

4.1.8 % 7% 9% F% '\$N% ;! <%V\$ H% m! <% I

RTCLink \$G\$ 0% 7% 9% F% '% I% m! <% &% #% s% I% &\$ K9 =0 . \$ 7\$?% 7% 9% F% '\$N> BV\$ rJ]B8\$ 7\$?\$ j! "U]B8\$ 7\$?
% 7% 9% F% '\$ rI |8 5\$ 9\$ k\$ 3\$ H\$, =FMh\$ ^\$ 9! #

4.1.8.1 9=C [\$ 7\$?% 7% 9% F% '\$NU]B8

% 7% 9% F% '\$NU]B8\$ r9 T\$ &\$ K\$ O! "0 J2 <\$N2 DL\$ j\$ NU }K ! \$, \$ "\$ j\$ ^\$ 9! #

Save System

% 7% 9% F% '% I% m! <% &% #% s% I% & \$ K9 =0 . \$ 7\$?% 7% 9% F% '\$ r% C% U%)% k% HL> (% 7% 9% F% '% I% m! <% &% #% s% I
% &\$ N% ?% \$% H% k) \$GXML %U% !% \$% k\$ KJ]B8\$ 7\$ ^\$ 9! #Nc\$ (\$P! "% &% #% s% I% &\$ N% ?% \$% H% k\$, ! VSystem:1! W

\$N> ②g\$O! "System1.xml \$H\$ \$\$&%U% !%\$\$kL>\$K\$J\$ j\$ ^\$9! #

! | 9=C [\$ 7\$?% 7%9%F% '\$r%G%U%)%k%HL>\$GJ]B8

%a%K%e! <%P! <\$N! vFile!w! j! vSave System!w\$ rA *Br\$9\$k

% 7%9%F% '%I%m! <%&%#%s%I%&\$G[1&%/%j%C%/] \$ 7%a%K%e! <\$+\$i! vSave System!w\$ rA *Br\$9\$k

Save System as

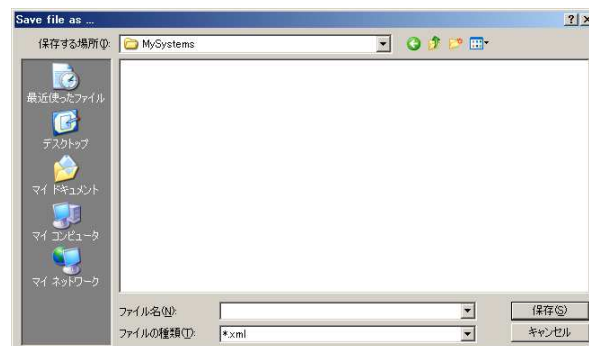
% 7%9%F% '%I%m! <%&%#%s%I%&> \$KO=Q. \$ 7\$?% 7%9%F% '\$r%f! <%6G\$0U\$N%U% !%\$\$kL>\$GJ]B8\$ 7\$ ^\$9! #
L>A0\$rIU\$1\$FJ]B8\$ 7\$?\$ \$> ②g\$O! "

! | 9=C [\$ 7\$?% 7%9%F% '\$rL>A0\$rIU\$1\$FJ]B8

%a%K%e! <%P! <\$N! vFile!w! j! vSave System As!w\$ rA *Br\$9\$k

% 7%9%F% '%I%m! <%&%#%s%I%&\$G[1&%/%j%C%/] \$ 7%a%K%e! <\$+\$i! vSave System As!w\$ rA *Br\$9\$k

Save System as \$N> ②g\$O! "%U% !%\$\$k% ;! <%V! &%@%\$% "%m%0\$,I<= \$5\$1\$ ^\$9(?^4.21)! #



? ^ 4.21: %U% !%\$\$k% ;! <%V! &%@%\$% "%m%0

%U% !%\$\$k% ;! <%V! &%@%\$% "%m%0\$KG\$0U\$N%U% !%\$\$kL>\$rF~NO\$7OK \$r2 !\$9\$HXML %U% !%\$\$k\$KJ]
B8\$5\$1\$ ^\$9! #

4.1.8.2 J]B8\$ 7\$?% 7%9%F% '\$NI |85

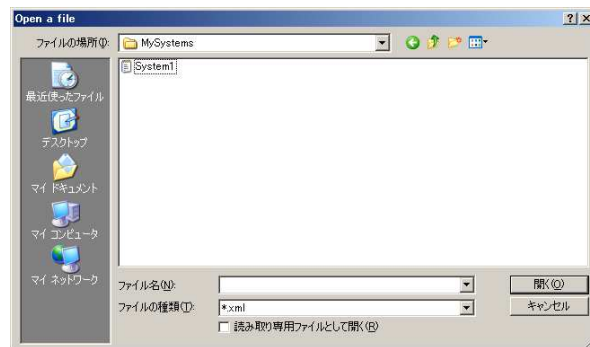
XML %U% !%\$\$k\$KJ]B8\$ 7\$?% 7%9%F% '9=Q. \$ rI |85\$9\$k\$K\$O! "

! | J]B8\$ 7\$?% 7%9%F% '\$rI |85

%a%K%e! <%P! <\$N! vFile!w! j! vOpen System!w\$ rA *Br\$9\$k

% 7%9%F% '%I%m! <%&%#%s%I%&\$G[1&%/%j%C%/] \$ 7%a%K%e! <\$+\$i! vOpen System!w\$ rA *Br\$9\$k

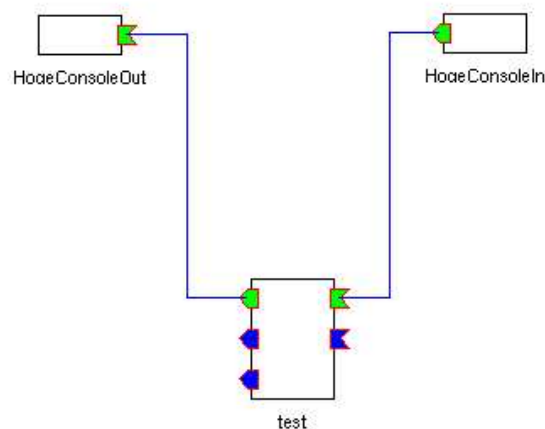
%U% !%\$%k%*! <%W% s! &%@%\$% "%m% 0\$,I<= \$ 5\$ 1\$ ^\$ 9 (? ^ 4.22)! #



? ^ 4.22: %U% !%\$%k%*! <%W% s! &%@%\$% "%m% 0

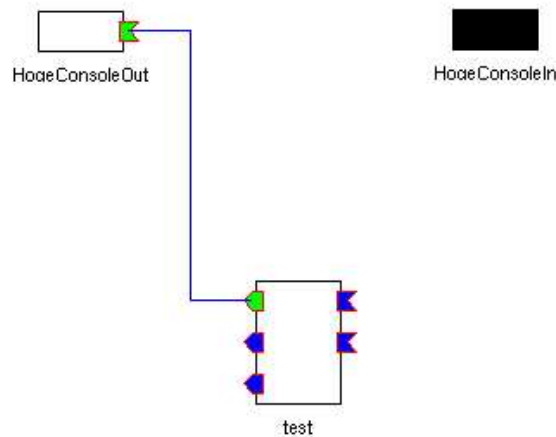
%U% !%\$%k%*! <%W% s! &%@%\$% "%m% 0\$K% f! <% 6G\$0U\$N%U% !%\$%kL>\$rF~NO\$ 7OK \$r2!\$ 9\$HA02sJ]B8\$ 7
\$?% 7% 9%F% '\$,Gr\$ %\$ 3% s%]! <%M% s% H% V% m% C% /\$GI<= \$ 5\$ 1\$ ^\$ 9 (? ^ 4.23)! #3\$ 3\$ G\$ O! "F I\$ _9 ~\$ s\$ @% 7
% 9%F% '9=@.\$ G@ 5\$ 7\$ \$\$N\$ +3NG '\$ 9\$ kCJ3,\$ H\$ J\$ j\$ ^\$ 9! #

%U% !%\$%k%*! <%W% s! &%@%\$% "%m% 0\$,I<= \$ 5\$ 1\$ ^\$ 9 (? ^ 4.22)! #



? ^ 4.23: %m! <% I\$ 5\$ 1\$?D>8e\$N% 7% 9%F% '

% 7% 9%F% '9=@.\$ N3NG '\$NCJ3,\$ G! "? ^ 4.24 \$NM\$K% 3% s%]! <%M% s% H% V% m% C% /\$, 9u\$ \$> 1g\$ O! "% 3% s
%]! <%M% s% H\$,5 7' 0\$ 7\$ F\$ \$J\$ J\$ \$> BV\$ G\$ 9! #3% s%]! <%M% s% H\$ r5 7' 08e! "\$ b\$ &0 1E YJ]B8\$ 7\$?% 7% 9%F% '
\$NI |8 5\$ r9 T\$ C\$ F\$ /\$ @5\$ \$! #



? ^ 4.24: %3%s%! <%M% s%H\$,5 7 0\$ 7\$ F\$ \$\$ J\$ \$> BV

< \$K! "%3%s%! <%M% s%H\$N\B3\$ r9 T\$ \$\$ ^\$ 9! # % 7% 9%F% ' % I% m! <% &% # % s% I% &\$N% P% C% /% 0% i% s% I\$ G[1 &
% /% j% C% /] \$ r9 T\$ &\$ H% 3% s% F% -% 9% H% a% K% e! <\$,I <= \$ 5\$ 1\$ ^\$ 9! # a% K% e! <F b\$ N! VConnect! w\$ rA *Br\$ 7
\$ F\$ /\$ @ \$ 5\$ \$! # %3%s%! <%M% s%H\$ V% m% C% /\$,@D? ' \$ KJ Q\$ o\$ j Start/Stop Ey\$ NA ': n\$,2DG=\$ H\$ J\$ j\$ ^\$ 9! #

! | % 7% 9%F% '9=@ . \$ NNG ' ; ~\$ N% 3% s% F% -% 9% H% a% K% e! <

Connect %3%s%! <%M% s%H\$N\B3

Delete I <= \$ 7\$ F\$ \$\$ k% 7% 9%F% '9=@ . \$ N: o= |

4.1.9 % j% U% l% C% % e

%3%s%! <%M% s%H\$ r@ \B3\$ 7\$?\$ ^\$ ^ RTCLink \$ r= *N; \$ 7\$?\$ j! "%3%s%! <%M% s%H\$ r: F5 7 0\$ 7\$?; Ey
\$ K! "RTCLink > @N% 7% 9%F% '9=@ . \$ H< B] \$ N% 3% s% ! <%M% s%H\$N\B3> BV\$,0 [\$ J\$ k; \$, \$ " \$ j\$ ^\$ 9! # \$ =
\$ N:]\$ O! "% 7% 9%F% ' % I% m! <% &% # % s% I% &\$N% P% C% /% 0% i% s% I> @ G[1 &% /% j% C% /] \$ r9 T\$ \$ % 3% s% F% -% 9% H% a
% K% e! <F b\$ N! VRefresh! w\$ rA *Br\$ 7\$ F\$ /\$ @ \$ 5\$ \$! #

% j% U% l% C% % e\$ r9 T\$ &\$ H! "%3%s%! <%M% s%H\$N> BV\$ K9 g\$ o\$; %3%s%! <%M% s%H\$ V% m% C% /\$ N? ' \$ r: FI=
< \$ 7! "% 7% 9%F% ' % I% m! <% &% # % s% I% &> @N% 7% 9%F% '9=@ . \$ K\$ " \$ o\$; \$ F@ \B3\$ d@ ZC\$ r9 T\$ \$\$ ^\$ 9! # % 7% 9%F
% ' % I% m! <% &% # % s% I% &> @N% 7% 9%F% '9=@ . \$ K\$ J\$ \$ @ \B3\$,8 !=P\$ 5\$ 1\$?> @ g\$ O! "% 7% 9%F% '9=@ . \$ K\$ " \$ o\$;
\$ F: F@ \B3 (@ \B3\$ d@ ZC\$) \$ r9 T\$ &\$ + % @ \$ % " % m% 0\$ G3NG ' \$,9 T\$ o\$ 1\$ ^\$ 9! #

4.2.2 --c++

C++ \$N%3! <%I\$r@8@.\$ 7\$ ^\$9! #3\$N% *%W% 7%g% s\$,; ; j\$ 5\$ 1\$?> 9g! "%3% s%]! <%M% s%H\$N%b%8%e! <%kL>(8@=R) \$, Hoge \$N> 9g! "0J2<\$N%U% !%\$%k\$, @8@.\$ 5\$ 1\$ ^\$9! #

! | @8@.\$ 5\$ 1\$ k%3! <%I

Hoge.h	Hoge %3% s%]! <%M% s%H\$N% X%C% @%U% !%\$%k
Hoge.cpp	Hoge %3% s%]! <%M% s%H\$N% Au%U% !%\$%k
HogeComp.cpp	Hoge %3% s%]! <%M% s%H\$N% 9% ?% s% I% "%m% sHG< Au%U% !%\$%k
Makefile.Hoge	Hoge %3% s%]! <%M% s%H\$NMakefile

4.2.3 --python

Python \$N%3! <%I\$r@8@.\$ 7\$ ^\$9! #3% s%]! <%M% s%H\$N%b%8%e! <%kL>(8@=R) \$, Hoge \$N> 9g! "0J2<\$N%U% !%\$%k\$, @8@.\$ 5\$ 1\$ ^\$9! #

! | @8@.\$ 5\$ 1\$ k%3! <%I

Hoge.py	Hoge %3% s%]! <%M% s%H\$NPython HG< Au%U% !%\$%k
---------	---

4.2.4 --output

%3% s%]! <%M% s%H\$N%b%8%e! <%kL>\$K4X\$o\$ i\$:! "@8@.\$ 9\$ k%U% !%\$%k\$NL>A0\$r; ; j\$ 7\$ ^\$9! #
--output=Foo \$r; ; j\$ 7\$?> 9g! "> 9g! "0J2<\$N%U% !%\$%k\$, @8@.\$ 5\$ 1\$ ^\$9! #

! | @8@.\$ 5\$ 1\$ k%3! <%I

Foo.h	%3% s%]! <%M% s%H\$N% X%C% @%U% !%\$%k
Foo.cpp	%3% s%]! <%M% s%H\$N% Au%U% !%\$%k
FooComp.cpp	%3% s%]! <%M% s%H\$N% 9% ?% s% I% "%m% sHG< Au%U% !%\$%k
Makefile.Foo	%3% s%]! <%M% s%H\$NMakefile

\$3\$N% *%W% 7%g% s\$O --c++ \$,; ; j\$ 5\$ 1\$ F\$ \$k> 9g\$ K\$N\$ _M-8 z\$ G\$9! #

4.2.5 --module-name

%b%8%e! <%k\$NL>A0\$r; ; j\$ 7\$ ^\$9! #3\$ 3\$G; ; j\$ 7\$?L>A0\$O! "%/i%9L>\$K\$b; MQ\$ 5\$ 1\$ k\$N\$G! 'C++
\$N%/%i%9%a%\$H\$ 7\$FM-8 z\$ JL>A0\$r; ; j\$ 7\$ F\$ /\$ @5\$ \$! #

4.2.6 --module-desc

```
$3$N%3%$%!<%M%$%H%b%8%e!<%k$N3 5MW@bL@5r5 =R$7$^$9!#%@%V%k%/%*!<%H$G0O$a$P!"6 Gr$r
4^$a$k$3$H$b=EMh$^$9!#
```

4.2.7 --module-version

```
%P!<%8%g%$HV9f$r; 8j$7$^$9!#
```

4.2.8 --module-author

```
%3%$%!<%M%$%H$N:n@.<$r5 =R$7$^$9!#
```

4.2.9 --module-category

```
%3%$%!<%M%$%H$N%+%F%4%j$r5 =R$7$^$9!#
```

4.2.10 --module-comp-type

```
%3%$%!<%M%$%H%?%$%W$r; 8j$7$^$9!#%3%$%!<%M%$%H%?%$%W$K$D$ $$F$O!"3.4@a$N!V%3%$%!<
%M%$%H%?%$%W!W$N9'$r; 2 87$F$/$@5$ $!#
```

4.2.11 --module-act-type

```
%3%$%!<%M%$%H%"%/%F%#%S%F%#%?%$%W$r; 8j$7$^$9!#%3%$%!<%M%$%H%"%/%F%#%S%F%#%?%$%W
$K$D$ $$F$O!"3.4@a$N!V%3%$%!<%M%$%H%"%/%F%#%S%F%#%?%$%W!W$N9'$r; 2 87$F$/$@5$ $!#
```

4.2.12 --module-max-inst

```
@8@.2DG=>J:GBg$N%$%$%9%?%$%9?t$r?tCM$G; 8j$7$^$9!#
```

4.2.13 --module-lang

```
%3%$%!<%M%$%H5 =R8@8l$r; 8j$7$^$9!#$3$N%*%W%7%g%$O--c++,--python $N; 8j$K$h$C$F
>eq$-$5$1$^$9$N$G!"; 8j$7$J$/$H$b9=>$ $ $^$;$s!#
```

4.2.14 --module-inport

\$3\$N%3%\$%!<%M%\$H\$,,; \$DInPort \$r\$7\$F\$7\$^\$9! #InPort \$rJ#?t; \$D> 9g\$K\$O! "\$3\$N%*%W%7%g
%s\$J#?t; 8j\$G\$-\$^\$9! #

! | InPort ;XDjNc

pos:TimedFloatSeq	“pos” \$H\$ \$\$&L>A0\$r; \$D! "; 4VIU\$-Float \$N%7! <%1%\$%97?
vel:TimedFloat	“pos” \$H\$ \$\$&L>A0\$r; \$D! "; 4VIU\$-Float 7?
num:TimedShort	“num” \$H\$ \$\$&L>A0\$r; \$D! "; 4VIU\$-Short 7?

InPort \$KIU\$1\$KL>A0\$H7?\$r%3%ne\$s!V!W\$G6 8Z\$C\$F; 8j\$7\$^\$9! #; 8j2DG=\$J7?\$K\$D\$ \$\$F\$O! "3.4
@a\$N! WJQ?t7?!W\$N9 '\$r; 2 87\$F\$/\$@5\$ \$! #

4.2.15 --module-outport

\$3\$N%3%\$%!<%M%\$H\$,,; \$DOutPort \$r\$7\$F\$7\$^\$9! #OutPort \$rJ#?t; \$D> 9g\$K\$O! "\$3\$N%*%W
%7%g%\$s\$J#?t; 8j\$G\$-\$^\$9! #; 8j\$N; 8j)\$K\$D\$ \$\$F\$O! "InPort \$H\$1\$8\$G\$9! #

4.3 rtm-config

rtm-config \$O%\$%k%I; \$N3F< @_Dj> p\$sr< 8@9\$K\$?\$a\$N%3%^%\$%I\$G\$9! #

```
> ./rtm-config --help
Usage: rtm-config [OPTIONS]
Options:
    [--prefix[=DIR]]
    [--exec-prefix[=DIR]]
    [--version]
    [--libs]
    [--cflags]
    [--libdir]
    [--orb]
    [--idlc]
    [--idlflags]
```

4.3.1 --prefix

OpenRTM-aist \$N%\$%\$%9%H! <%k%G%#%1%/%H%j\$N%W%j%U%#%/%9\$r< 8@9\$7\$^\$9! #

```
> ./rtm-config --prefix
/usr/local
```

4.3.2 --exec-prefix

```
OpenRTM-aist $N< BT%U% !%$%k$, %$%s%9%H! <%k$ 5$ 1$ ?%G% #1% /%H% j$N%W% j%U% #% /%9$ r< H@ $ 7
$ ^$ 9! #
```

```
> ./rtm-config --exec-prefix
/usr/local
```

```
%W% j%U% #% /%9 + bin $,< B] $N%G% #1% /%H% j$G$ 9! #
```

4.3.3 --version

```
OpenRTM-aist $N%P! <%8%g% sHV9 f$ r< H@ $ 7$ ^$ 9! #
```

```
> ./rtm-config --version
aist-0.2.0
```

```
> 5 $NNc$ +$ i$ c$ +$ k$ h$ &$ K! "OpenRTM-aist $G$ O aist-x.x.x $H$ $$ &%P! <%8%g% sHV9 f$ r$ H$ j
$ ^$ 9! #
```

4.3.4 --libs

```
%j% s% /; $KI, MW$ J% i% $%V% i% j$ X$ N% Q% 9$ H% i% $%V% i% j$ r% j% s% +$ XE O$ 9% *%W% 7% g% s$ N7 A< 0G< H@
$ 7$ ^$ 9! # Makefile $r5 =R$ 9$ k: j$ K! "%i% $%V% i% j$ N; 0j$ r rtm-config $rMxMQ$ 7$ F9 T$ &$ 3$ H$ G! "
0 \? "@-$N$ "$k Makefile $r5 =R$ 9$ k$ 3$ H$, =FMh$ ^$ 9! #
```

```
> ./rtm-config --libs
-L/usr/local/lib -L/usr/local/lib -L/usr/local/lib -lpthread -lace \
-lboost_regex -lomniORB4 -lomnithread -lomniDynamic4 -lRTC
```

4.3.5 --cflags

```
%3% s% Q% $%k; $KI, MW$ J% 3% s% Q% $%k% *%W% 7% g% s$ r% 3% s% Q% $% i$ XE O$ 9% *%W% 7% g% s$ N7 A< 0G< H@ $ 7
$ ^$ 9! # Makefile $r5 =R$ 9$ k: j$ K! "%3% s% Q% $%k% *%W% 7% g% s$ N; 0j$ r rtm-config $rMxMQ$ 7$ F9 T$ &
$ 3$ H$ G! "0 \? "@-$N$ "$k Makefile $r5 =R$ 9$ k$ 3$ H$, =FMh$ ^$ 9
```

```
> ./rtm-config --cflags
-I/usr/local/include -I/usr/local/include -I/usr/local/include \
-I/usr/local/include -I/usr/local/include -I/usr/local/include/rtm/idl
```

4.3.6 --libdir

```
OpenRTM-aist $N; B?J%U% !%$%k$r%$%s%9%H! <%k$ 7$F$ *$/%G%#%l%/%H% j$r< B@ $ 7$ ^$ 9! #
```

```
> ./rtm-config --libdir
/usr/local/lib/OpenRTM
```

4.3.7 --orb

```
OpenRTM-aist $,$ I$NORB $G%$%k% I$ 5$ 1$F$ $$k$+$r; B j$ 7$ ^$ 9! #2 <5 $N C$ G$ O! 'OpenRTM-
aist $, omniORB $G%$%k% I$ 5$ 1$F$ $$k$ 3$H$ r< $ 7$F$ $$ ^$ 9! #
```

```
> ./rtm-config --orb
omniORB
```

4.3.8 --idlc

```
OpenRTM-aist $,%S%k%I; $K; MQ$ 7$? IDL %3% s%Q% $% i%3% ^%s% I$N%U%k%Q%9$ r< B@ $ 7$ ^$ 9! #
%f! <%6$,%3% s% ]! <%M% s%H$K? 7$ ?$J%$% s%?! <%U% '! <%9$ rD I2 C$ 9$ k: ]$K$ O! "$3$N% *%W% 7%g% s$G< B@
$ 7$? IDL %3% s%Q% $% i$ r; MQ$ 7$ J$ 1$ 1$F$ J$ j$ ^$ ;$ s! #
```

```
> ./rtm-config --idlc
/usr/local/bin/../../bin/omniidl
```

4.3.9 --idlflags

```
OpenRTM-aist $,%S%k%I; $K; MQ$ 7$? IDL %3% s%Q% $% i%3% ^%s% I$M? ($ ?% *%W% 7%g% s$ r=jF@
$ 7$ ^$ 9! #
```

```
> ./rtm-config --idlflags
-bcxx -Wba -nf
```

4.3.10 rtm-config \$N;HMQK!

```
rtm-config $r; MQ$9$k$3$H$K$h$j! "%^%7% sKh$K0 [$J$C$?@_Dj$G$S%k%I$5$1$? OpenRTM
$,,%$%s%9%H! <%k$5$1$F$ $$F$b! "$=$N@_Dj> p s$ rMF0W$K< E @ $9$k$3$H$, $G$-$^$9! #< $JMxMQJ}
K!$O! "%^%7% sKh$K0 [$J$k%3% s%Q% $%k% *%W% 7%g% s! "%j% s%/% *%W% 7%g% s$r rtm-config $K$h$j< h
F @ $7 Makefile $G; MQ$9$k$3$H$G$9! #Makefile Fb$G%P%C%/%/*! <%H$Grtm-config --libs $d
rtm-config --cflags $r< BT$7%3% s%Q% $%k% *%W% 7%g% s! "%j% s%/% *%W% 7%g% s$r@_Dj$9$1$P! "B>
$N% ^%7% s$G$bMakefile $r=q$-49$ ($k$3$H$J$ /; MQ$9$k$3$H$,=FMh$^$9! #
```

4.4 rtm-naming

```
rtm-naming $O ORB Kh$K0 [$J$k%M! <% '5! <%P! <$KBP$9$k5 F'0%i%C%Q$G$9! #8=:_$N$H$3$m
omniORB $K$7$+BPl~$7$F$ $$^$;$s$,! ": #8e OpenRTM-aist $,B>$NORB $KBP1~$7$?: ]$K! "F1
$8%3% ^%s%I% *%W% 7%g% s$G%M! <% '5! <%S$9$r5 F'0$G$-$k$h$&$K$9$k$?$a$FMQ0U$5$1$F$ $$^$9! #
```

4.5 rtcd

```
rtcd $O%3% s% ]! <%M% s%H$r; $ ?$J$ $%3% s% ]! <%M% s%H% ^%M! <%8% c$ @ $1$+$i$J$k< BT%U% !%$%k$G
$9! #rtcd $r5 F'0$7$F! "8e$+$i$m! <%@%V%k%b%8%e! <%k%3% s% ]! <%M% s%H$r% m! <%I$7$F; MQ$7$^$9! #
```


Bh5 >O RTM Specification

OpenRTM-aist \$O FHN)9 T@/K!?M? 7% (%M%k% .! <! &; 6 H 7QE }9g3 +H/5 9= (NEDO) \$N21 @ \$5 %m
% \C%H%A% c% l% s% 8% W% m% 0% i% '! V% m% \C%H5 G=H/8=\$N\$?\$ a\$ KI ,MW\$ JMWAG5 7Q3 +H/! W\$ K\$ *\$ \$\$ FT 8= '
2=: r6 H ,? J\$ a\$ i\$ l\$ F\$ \$\$ k RTM Specification \$N% \$% s% ?! <% U% '! <% 9; MM\$ K= '5 \$ 9\$ k< B u\$ N\$ R\$ H\$ D
\$ H\$ 7\$ F3 +H/\$ 5\$ l\$ ^\$ 7\$?! #

% W% m% 8% '% /% H\$ G\$ O! "m% \C%H\$ N\$?\$ a\$ NI 8= 'E *\$ J% W% i% C%H% U%)! <% '\$ H\$ J\$ k\$ h\$ &\$ J% _% I% k% &% (% "\$ r3 +
H/\$ 9\$ k\$?\$ a\$ K! "% \$% s% ?! <% U% '! <% 9% l% Y% k\$ G\$ N; MM: vD j\$ HI 8= '2=: r6 H ,9 T\$ o\$ l RTM Specification
\$ H\$ 7\$ F\$ ^\$ H\$ a\$ i\$ l\$ ^\$ 7\$?! #

K\> @G\$O OpenRTM-aist \$N% \$% s% ?! <% U% '! <% 9; MM\$ N4p\$ H\$ J\$ C\$ F\$ \$\$ k RTM Specification \$K
\$ D\$ \$\$ F! "; MM\$ H< B u\$ N4X78\$ r@bL@ \$ 7\$ ^\$ 9! # \$ ^\$?! "IDL \$N% \$% s% ?! <% U% '! <% 9D j5 Ar< \$ 7\$ J\$, \$ i! "
RTM Specification % \$% s% ?! <% U% '! <% 9; MM\$ H OpenRTM-aist \$K\$ h\$ jF H< \$ K3 HD% \$ 5\$ l\$?% \$% s% ?! <
% U% '! <% 9\$ r\$ = \$ l\$ > \$ l< \$ 7\$ J\$, \$ i! "\$ 3\$ l\$ i\$ N0 c\$ \$\$ K\$ D\$ \$\$ F@bL@ \$ 7\$ ^\$ 9! #

5.1 OpenRTM-aist \$H RTM Specification

RTM \$CFHN)9 T@/K!?M? 7% (%M%k% .! <! &; 6 H 7QE }9g3 +H/5 9= (NEDO) \$N21 @ \$5 %m% \C%H%A% c
% l% s% 8% W% m% 0% i% '! V% m% \C%H5 G=H/8=\$N\$?\$ a\$ KI ,MW\$ JMWAG5 7Q3 +H/! W\$ K\$ w\$ \$\$ F! "% M% C% H% o! <% /% m
% \C%H\$ N% W% i% C%H% U%)! <% '\$ H\$ J\$ k% _% I% k% &% (% "5 7Q\$ r3 +H/\$ 9\$ kL\E *\$ N8 5\$ K! "FHN)9 T@/K!?M; 6 H
5 7QAm9g8&5 6j (National Institute of Advanced Industrial Science and Technology: AIST)! "
> 2<EE9)3t< 0q< R(Matsushita Electric Works, Ltd.: MEW) \$HF |K\% m% \C%H9)6 0q (Japan
Robot Association: JARA) \$N3 < T(?^ 5.1) \$K\$ h\$ j! "J?@ . 14 G/EY\$ +\$ iJ?@ . 16 G/EY\$ ^\$ G\$ N3 G/
4V\$ N% W% m% 8% '% /% H\$ H\$ 7\$ F8&5 B +H/\$,9 T\$ o\$ l\$ ^\$ 7\$?! #

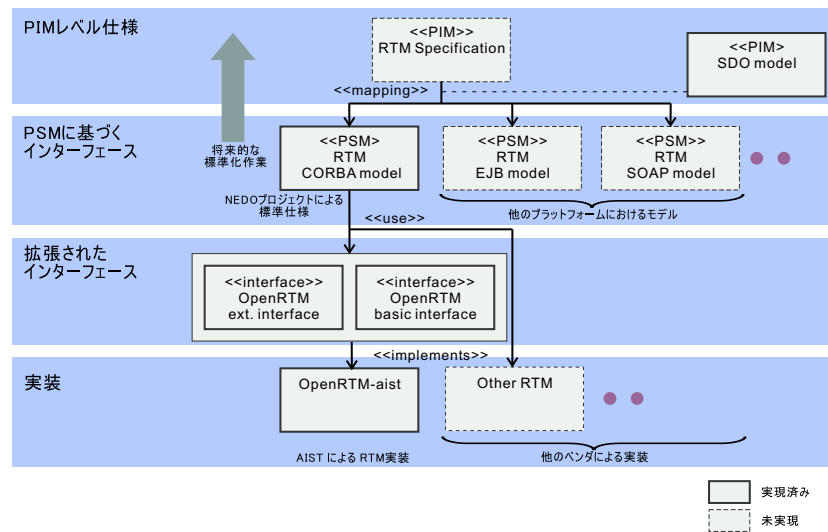


図 5.2: RTM Specification における OpenRTM-aist の位置

InPort/OutPort 仕様: <? ? ! % ^ % M ! < % % c \$ J \$ I ! % 3 % s %] ! < % M % s % H L % M Q > & , M W \$ G \$ " \$ k \$, ! " \$ = \$ N % " % W % j % 1 ! < % 7 % g % s \$ K \$ h \$ j \$ ^ \$? < B u < \$ K \$ h \$ j M ! 9 \$ J 7 A B V \$, 9 M \$ (\$ i \$ 1 ! " \$ + \$ D % 3 % s %] ! < % M % s % H \$ N A j 8 _ @ \ B 3 @ - \$ K 4 X M ? \$ 7 \$ J \$ I t J , \$ K \$ D \$ \$ F \$ O 4 p K \ ; & M \$ + \$ i \$ O = | \$ + \$ 1 \$ F \$ \$ \$ ^ \$ 9 ! # \$? \$ H \$ (\$ P ! " O p e n R T M - a i s t \$ K \$ * \$ \$ F \$ O % 3 % s %] ! < % M % s % H L % M Q > \$ N I , M W @ - \$ + \$ i F H < \$ K % 3 % s %] ! < % M % s % H % ^ % M ! < % 8 % c C O R B A % * % V % 8 % ' % / % H ! " I n P o r t / O u t P o r t 4 p K \ % G ! < ? ? ? ! % 3 % s %] ! < % M % s % H % W % m % U % ! % \$ % k \$ J \$ I \$ N 3 H D % C O R B A % * % V % 8 % ' % / % H \$ r 4 ^ \$ s \$ G \$ \$ \$ ^ \$ 9 ! # \$ ^ \$? ! % 3 % s %] ! < % M % s % H % * % V % 8 % ' % / % H \$ N % \$ % s % ? ! < % U % ' ! < % 9 \$ K \$ D \$ \$ \$ F \$ b ! " % 3 % s %] ! < % M % s % H \$ N J # 9 g 2 = \$ d % j % " % k % ? % \$ ' F 0 : n \$ N \$? \$ a \$ N 4 p K \ E * \$ J % 3 % s %] ! < % M % s % H % \$ % s % ? ! < % U % ' ! < % 9 R T C o m p o n e n t \$ r 7 Q > \$ 9 \$ k 7 A \$ G \$ \$ \$ / \$ D \$ + \$ N 3 H D % \$ r 9 T \$ C \$ F \$ * \$ j ! " \$ = \$ N % \$ % s % ? ! < % U % ' ! < % 9 \$ O R T C B a s e \$ H \$ 7 \$ F D j 5 \$ 5 \$ 1 \$ F \$ \$ \$ ^ \$ 9 ! #

5.2 RTM 仕様

> 5 RTM 仕様: < ? ? ! % ^ % M ! < % % c \$ J \$ I ! % 3 % s %] ! < % M % s % H L % M Q > & , M W \$ G \$ " \$ k \$, ! " \$ = \$ N % " % W % j % 1 ! < % 7 % g % s \$ K \$ h \$ j \$ ^ \$? < B u < \$ K \$ h \$ j M ! 9 \$ J 7 A B V \$, 9 M \$ (\$ i \$ 1 ! " \$ + \$ D % 3 % s %] ! < % M % s % H \$ N A j 8 _ @ \ B 3 @ - \$ K 4 X M ? \$ 7 \$ J \$ I t J , \$ K \$ D \$ \$ F \$ O 4 p K \ ; & M \$ + \$ i \$ O = | \$ + \$ 1 \$ F \$ \$ \$ ^ \$ 9 ! # \$? \$ H \$ (\$ P ! " O p e n R T M - a i s t \$ K \$ * \$ \$ F \$ O % 3 % s %] ! < % M % s % H L % M Q > \$ N I , M W @ - \$ + \$ i F H < \$ K % 3 % s %] ! < % M % s % H % ^ % M ! < % 8 % c C O R B A % * % V % 8 % ' % / % H ! " I n P o r t / O u t P o r t 4 p K \ % G ! < ? ? ? ! % 3 % s %] ! < % M % s % H % W % m % U % ! % \$ % k \$ J \$ I \$ N 3 H D % C O R B A % * % V % 8 % ' % / % H \$ r 4 ^ \$ s \$ G \$ \$ \$ ^ \$ 9 ! # \$ ^ \$? ! % 3 % s %] ! < % M % s % H % * % V % 8 % ' % / % H \$ N % \$ % s % ? ! < % U % ' ! < % 9 \$ K \$ D \$ \$ \$ F \$ b ! " % 3 % s %] ! < % M % s % H \$ N J # 9 g 2 = \$ d % j % " % k % ? % \$ ' F 0 : n \$ N \$? \$ a \$ N 4 p K \ E * \$ J % 3 % s %] ! < % M % s % H % \$ % s % ? ! < % U % ' ! < % 9 R T C o m p o n e n t \$ r 7 Q > \$ 9 \$ k 7 A \$ G \$ \$ \$ / \$ D \$ + \$ N 3 H D % \$ r 9 T \$ C \$ F \$ * \$ j ! " \$ = \$ N % \$ % s % ? ! < % U % ' ! < % 9 \$ O R T C B a s e \$ H \$ 7 \$ F D j 5 \$ 5 \$ 1 \$ F \$ \$ \$ ^ \$ 9 ! #

5.2.1 OMG (Object Management Group)

OMG (Object Management Group): < ? ? ! % ^ % M ! < % % c \$ J \$ I ! % 3 % s %] ! < % M % s % H L % M Q > & , M W \$ G \$ " \$ k \$, ! " \$ = \$ N % " % W % j % 1 ! < % 7 % g % s \$ K \$ h \$ j \$ ^ \$? < B u < \$ K \$ h \$ j M ! 9 \$ J 7 A B V \$, 9 M \$ (\$ i \$ 1 ! " \$ + \$ D % 3 % s %] ! < % M % s % H \$ N A j 8 _ @ \ B 3 @ - \$ K 4 X M ? \$ 7 \$ J \$ I t J , \$ K \$ D \$ \$ F \$ O 4 p K \ ; & M \$ + \$ i \$ O = | \$ + \$ 1 \$ F \$ \$ \$ ^ \$ 9 ! # \$? \$ H \$ (\$ P ! " O p e n R T M - a i s t \$ K \$ * \$ \$ F \$ O % 3 % s %] ! < % M % s % H L % M Q > \$ N I , M W @ - \$ + \$ i F H < \$ K % 3 % s %] ! < % M % s % H % ^ % M ! < % 8 % c C O R B A % * % V % 8 % ' % / % H ! " I n P o r t / O u t P o r t 4 p K \ % G ! < ? ? ? ! % 3 % s %] ! < % M % s % H % W % m % U % ! % \$ % k \$ J \$ I \$ N 3 H D % C O R B A % * % V % 8 % ' % / % H \$ r 4 ^ \$ s \$ G \$ \$ \$ ^ \$ 9 ! # \$ ^ \$? ! % 3 % s %] ! < % M % s % H % * % V % 8 % ' % / % H \$ N % \$ % s % ? ! < % U % ' ! < % 9 \$ K \$ D \$ \$ \$ F \$ b ! " % 3 % s %] ! < % M % s % H \$ N J # 9 g 2 = \$ d % j % " % k % ? % \$ ' F 0 : n \$ N \$? \$ a \$ N 4 p K \ E * \$ J % 3 % s %] ! < % M % s % H % \$ % s % ? ! < % U % ' ! < % 9 R T C o m p o n e n t \$ r 7 Q > \$ 9 \$ k 7 A \$ G \$ \$ \$ / \$ D \$ + \$ N 3 H D % \$ r 9 T \$ C \$ F \$ * \$ j ! " \$ = \$ N % \$ % s % ? ! < % U % ' ! < % 9 \$ O R T C B a s e \$ H \$ 7 \$ F D j 5 \$ 5 \$ 1 \$ F \$ \$ \$ ^ \$ 9 ! #

OMG 仕様: < ? ? ! % ^ % M ! < % % c \$ J \$ I ! % 3 % s %] ! < % M % s % H L % M Q > & , M W \$ G \$ " \$ k \$, ! " \$ = \$ N % " % W % j % 1 ! < % 7 % g % s \$ K \$ h \$ j \$ ^ \$? < B u < \$ K \$ h \$ j M ! 9 \$ J 7 A B V \$, 9 M \$ (\$ i \$ 1 ! " \$ + \$ D % 3 % s %] ! < % M % s % H \$ N A j 8 _ @ \ B 3 @ - \$ K 4 X M ? \$ 7 \$ J \$ I t J , \$ K \$ D \$ \$ F \$ O 4 p K \ ; & M \$ + \$ i \$ O = | \$ + \$ 1 \$ F \$ \$ \$ ^ \$ 9 ! # \$? \$ H \$ (\$ P ! " O p e n R T M - a i s t \$ K \$ * \$ \$ F \$ O % 3 % s %] ! < % M % s % H L % M Q > \$ N I , M W @ - \$ + \$ i F H < \$ K % 3 % s %] ! < % M % s % H % ^ % M ! < % 8 % c C O R B A % * % V % 8 % ' % / % H ! " I n P o r t / O u t P o r t 4 p K \ % G ! < ? ? ? ! % 3 % s %] ! < % M % s % H % W % m % U % ! % \$ % k \$ J \$ I \$ N 3 H D % C O R B A % * % V % 8 % ' % / % H \$ r 4 ^ \$ s \$ G \$ \$ \$ ^ \$ 9 ! # \$ ^ \$? ! % 3 % s %] ! < % M % s % H % * % V % 8 % ' % / % H \$ N % \$ % s % ? ! < % U % ' ! < % 9 \$ K \$ D \$ \$ \$ F \$ b ! " % 3 % s %] ! < % M % s % H \$ N J # 9 g 2 = \$ d % j % " % k % ? % \$ ' F 0 : n \$ N \$? \$ a \$ N 4 p K \ E * \$ J % 3 % s %] ! < % M % s % H % \$ % s % ? ! < % U % ' ! < % 9 R T C o m p o n e n t \$ r 7 Q > \$ 9 \$ k 7 A \$ G \$ \$ \$ / \$ D \$ + \$ N 3 H D % \$ r 9 T \$ C \$ F \$ * \$ j ! " \$ = \$ N % \$ % s % ? ! < % U % ' ! < % 9 \$ O R T C B a s e \$ H \$ 7 \$ F D j 5 \$ 5 \$ 1 \$ F \$ \$ \$ ^ \$ 9 ! #

¹UML < ? ? ! % ^ % M ! < % % c \$ J \$ I ! % 3 % s %] ! < % M % s % H L % M Q > & , M W \$ G \$ " \$ k \$, ! " \$ = \$ N % " % W % j % 1 ! < % 7 % g % s \$ K \$ h \$ j \$ ^ \$? < B u < \$ K \$ h \$ j M ! 9 \$ J 7 A B V \$, 9 M \$ (\$ i \$ 1 ! " \$ + \$ D % 3 % s %] ! < % M % s % H \$ N A j 8 _ @ \ B 3 @ - \$ K 4 X M ? \$ 7 \$ J \$ I t J , \$ K \$ D \$ \$ F \$ O 4 p K \ ; & M \$ + \$ i \$ O = | \$ + \$ 1 \$ F \$ \$ \$ ^ \$ 9 ! # \$? \$ H \$ (\$ P ! " O p e n R T M - a i s t \$ K \$ * \$ \$ F \$ O % 3 % s %] ! < % M % s % H L % M Q > \$ N I , M W @ - \$ + \$ i F H < \$ K % 3 % s %] ! < % M % s % H % ^ % M ! < % 8 % c C O R B A % * % V % 8 % ' % / % H ! " I n P o r t / O u t P o r t 4 p K \ % G ! < ? ? ? ! % 3 % s %] ! < % M % s % H % W % m % U % ! % \$ % k \$ J \$ I \$ N 3 H D % C O R B A % * % V % 8 % ' % / % H \$ r 4 ^ \$ s \$ G \$ \$ \$ ^ \$ 9 ! # \$ ^ \$? ! % 3 % s %] ! < % M % s % H % * % V % 8 % ' % / % H \$ N % \$ % s % ? ! < % U % ' ! < % 9 \$ K \$ D \$ \$ \$ F \$ b ! " % 3 % s %] ! < % M % s % H \$ N J # 9 g 2 = \$ d % j % " % k % ? % \$ ' F 0 : n \$ N \$? \$ a \$ N 4 p K \ E * \$ J % 3 % s %] ! < % M % s % H % \$ % s % ? ! < % U % ' ! < % 9 R T C o m p o n e n t \$ r 7 Q > \$ 9 \$ k 7 A \$ G \$ \$ \$ / \$ D \$ + \$ N 3 H D % \$ r 9 T \$ C \$ F \$ * \$ j ! " \$ = \$ N % \$ % s % ? ! < % U % ' ! < % 9 \$ O R T C B a s e \$ H \$ 7 \$ F D j 5 \$ 5 \$ 1 \$ F \$ \$ \$ ^ \$ 9 ! #

5.2.2 MDA (Model Driven Architecture)

OMG \$,7G\$2\$?%!<-%F%/A% c\$K! "MDA (Model Driven Architecture) \$H\$ \$\$&\$b\$N\$, \$"\$j\$^ \$9! #F |K\8 1\$G\$O0 1HL\$K! V%b%G%k6 0% "!"<-%F%/A% c! W\$HLu\$5\$1\$^\$9! #

8=:_\$N%=%U%H%&% (" \$N0\? "0-! "A j8_1 MQ\$K\$*\$ \$\$F! "F 1\$85 G=\$r; \$D%=%U%H%&% ' "\$G\$ "\$C\$F\$b! " %W%i% C%H%U%)!< '\$,0 [\$J\$ k\$HMM! 9\$J< B u\$, \$"\$j! "K\mh: EMxMQ\$,2DG=\$J\$O\$:\$N%=%U%H%&% ' "\$,%W %i% C%H%U%)!< '\$,JQ\$ c\$ k\$HA j8_1 MQ\$, : \$F c\$K\$J\$ k\$3\$H\$,Bg\$-\$JLdB j\$H\$J\$C\$F\$ \$\$^\$9! #

MDA \$O! "%b%G%j% s%0< 3\$N% 7%9%F% '3+H/\$*\$h\$S%i%\$%U%5%\$/%k4IM}\$r< B=\$9\$k\$?\$a\$N% "!"< %-%F%/A% c\$G\$9! #MDA \$N9M\$ (J)\$O! "A4\$F\$N% 7%9%F% '\$O\$^\$:%b%G%k\$K\$h\$jDj5 A "%G%6%\$s\$5\$1! " %b%G%k\$,Dj5 A5\$1\$k\$3\$H\$GFCDj8 08 1\$d0=I J\$X\$N% ^%C%T% s%0\$O< F0E*\$K7hDj\$5\$1! "%7%9%F% '4IM}\$!" %\$%s%F%0%1!< '\$7%g% s\$b%b%G%k\$ rCf? 4\$H\$7\$F9T\$&\$3\$H\$G! "%7%9%F% '3+H/\$N8zN (8~> \$r? ^\$m\$&\$H\$ \$&\$b\$N\$G\$9! #

%b%G%k\$N7A\$G; EM\$rdj\$a\$1\$P! "\$=\$1\$h\$j\$b2<N.\$N> \Y0_7W\$d3!<G%#%s%0\$H\$ \$\$C\$?9)Dx\$,Bg I)\$K< F02=\$5\$1\$k\$N\$G! "\$3\$1\$,< B=\$9\$1\$F% 7%9%F% '9=C [\$N9)?t\$ rBgI)\$K: o8 :\$G\$-\$^\$9! #: G=*E*\$K\$O! "%b%G%k\$+\$i< B u\$3!< I\$N< F0080 . \$J\$ I\$b; k n\$KF~\$1\$F\$ \$k\$h\$&\$G\$9\$,! "\$^\$@< B=\$K\$^\$G \$O; \$C\$F\$ \$\$J\$ \$h\$&\$G\$9! # \$7\$+\$7\$J\$, \$i! "\$3\$N9M\$ (\$b1980 G/Be\$NCASE %D!<\$k\$,EP> \$7\$?\$H \$-\$HF 1\$8\$0\$H\$NHCH=\$b\$ "\$k\$N\$,; < B\$G\$9! #

\$7\$+\$7\$J\$, \$i! "MDA \$G< B j0 7\$&%b%G%k\$O! "%W%i% C%H%U%)!< '\$,JQ\$ c\$C\$F\$bF)2a0-\$N9b\$ \$: F MxMQ2DG=\$J% 7%9%F% '%G%6%\$s\$NCN8+\$G\$ "\$j! "%7%9%F% '3+H/\$K4X\$ o\$ k4X78< \$,%7%9%F% '\$K\$D\$ \$\$F 5 D0\$G\$-\$k6 B u\$* \$JBP> \$rM?\$ (\$F\$/\$1\$k\$H\$ \$\$&0UL#\$K\$*\$ \$\$F\$O! "M-8z\$J< B! \$G\$ "\$k\$H\$ \$\$ (\$=\$& \$G\$9! #

MDA \$K4p\$E\$ \$\$?3+H/\$G\$O! "

1. OS \$d8081! "%_I%k%&% '\$J\$ I\$K0MB8\$7\$J\$ %b%G%k! vPIM (Platform Independent Model) \$r:n0.\$9\$k! #
2. PIM \$r4p\$K! "OS \$d8081! "%_I%k%&% '\$J\$ I\$KF02=\$7\$?%b%G%k! vPSM (Platform Specific Model)!W\$r:n0.\$9\$k! #
3. PSM \$r4p\$K! "%W% m%0%i% '\$r080.\$9\$k

\$H\$ \$\$&N.\$1\$G3+H/\$,?J\$a\$i\$1\$k\$H\$ \$\$&\$3\$H\$K\$J\$C\$F\$ \$\$^\$9! #

5.2.3 PIM (Platform Independent Model)

PIM \$H\$O%W%i% C%H%U%)!< '\$K0MB8\$7\$J\$ %b%G%k\$G\$ "\$j! "\$3\$3\$G\$N%W%i% C%H%U%)!< '\$H\$OOS \$d8081! "%_I%k%&% '\$J\$ I\$r; \$7\$^\$9! #RTM %W% m%8% '%/H\$K\$*\$ \$\$F: vDj\$5\$1\$?; EM\$OCORBA \$rAODs\$H\$7\$?IDL %U%!%\$k\$H< J u\$N; EM\$H\$7\$FDs6 \$5\$1\$F\$ \$\$^\$9! # \$7\$?\$,\$C\$F! "RTM ; EM\$O %W%i% C%H%U%)!< '\$K0MB8\$9\$k\$H\$ \$\$&0UL#\$G PIM \$H\$O\$J\$C\$F\$ \$\$^\$; \$s! # \$7\$+\$7\$J\$, \$i! "%\$%s%?!< %U%'!< '\$90_7W\$K4X\$ o\$ k9M\$ (J)\$r PIM \$K0 1HL2=\$9\$k\$3\$H\$O2DG=\$G\$9\$N\$G! "> mHe*\$K\$O PIM %1 %Y%k\$GI8='2=\$,9T\$ o\$1\$k2DG=0-\$b\$ "\$j\$^\$9! #PIM %1%Y%k\$G\$NI8='2=\$,9T\$ o\$1\$1\$P! "B>\$N%W%i% C%H%U%)!< ' (JEB, DCOM, SOAP, XML-RPC) \$J\$ I\$X\$N%]!<F%#%s%0\$b2DG=\$K\$J\$ k\$G\$7\$g\$& (?^5.2)! #

5.2.4 PSM (Platform Specific Model)

PSM \$H\$O%W%i%C%H%U%)!<% '\$KOMB8\$7\$?%b%G%k\$G\$"\$j!"Nc\$(\$P CORBA \$r%W%i%C%H%U%)!<% '\$H5 p j\$7\$?> 9g IDL %\$%s%?!<%U%'!<%9%1%Y%k\$G\$N%b%G%k2=\$K\$J\$j\$^\$9!#RTM \$G\$O!" ; EM\$r CORBA \$N IDL %1%Y%k\$G\$N%\$%s%?!<%U%'!<%9\$NE }0 12=\$K\$h\$KI 8='2=\$r9T\$C\$F\$-\$F\$*\$j!"8=:_ F@ \$i\$1\$F\$ \$\$k; EM\$OPSM \$G\$ "\$k\$H\$ \$\$ (\$^\$9(?^ 5.2)!#

5.3 RTM Specification Ver.0.1

5.3.1 RTMBase.idl

RTMBase.idl \$G\$OA4BN\$K6 DL\$9\$k; B? \$JD j5 Ar9 T\$C\$F\$ \$\$ ^\$9! #

RTMBase.idl

```
module RTM {
    typedef short RtmRes;

    const RtmRes RTM_OK          = 0;
    const RtmRes RTM_ERR         = 1;
    const RtmRes RTM_WARNING     = 2;
    const RtmRes RTM_FATAL_ERR  = 4;

    struct NamedValue {
        string name;
        any value;
    };

    typedef sequence<NamedValue> NVList;

    struct Time
    {
        unsigned long sec;      // sec
        unsigned long nsec;     // nano sec
    };
};
```

RTM \$N% *%Z%1! <% 7%g% s\$NL a\$ jCM\$H\$ 7\$F RtmRes \$ rD j5 A 7\$F\$ \$\$ ^\$9! #% *%Z%1! <% 7%g% s\$, @5> \$K
< BT\$5\$1\$?\$ +\$ I\$ &\$ +\$ rLa\$ jCM\$H\$ 7\$FJV\$9> 9g! 'RtmRes \$ rLa\$ jCM\$H\$ 7\$F! "0J2 <\$NCM\$ rD j5 A 7\$F\$ \$
\$ ^\$9! #

! | % *%Z%1! <% 7%g% s\$NL a\$ jCM

```
const RtmRes RTM_OK          = 0;    @5> e*N;
const RtmRes RTM_ERR         = 1;    % (%i! <= *N;
const RtmRes RTM_WARNING     = 2;    7Y9p
const RtmRes RTM_FATAL_ERR  = 4;    CWL ?E *% (%i! <= *N;
```

G\$0U\$N7 ?\$NCM\$ r3JG<\$9\$ k9=B\$BN\$H\$ 7\$F! 'NamedValue \$ rD j5 A 7\$F\$ \$\$ ^\$9! # \$ ^\$?! 'NamedValue
\$N% 7! <%1% s%97 ?\$H\$ 7\$F NVList \$ rD j5 A 7\$F\$ \$\$ ^\$9! #

; 4V\$ r3JG<\$9\$ k9=B\$BN\$H\$ 7\$F Time 9=B\$BN\$ rD j5 A 7\$F\$ \$\$ ^\$9! #Time 9=B\$BN\$ O ICC10L\$N sec
5 \$S%J%NICC10L\$N nsec \$N% a% s%F\$ +\$ i9=@ . \$5\$1\$ ^\$9! #< \$K! "InPort/OutPort \$G\$d\$ j< B j\$5\$1\$k
%G! <% ?\$N% ?% \$% ' %9% ?% s%W\$K; MQ\$5\$1\$ ^\$9! #

5.3.2 RTComponent

0J2<\$KRTComponent \$N%\$s%?!<%U% '!<%9IDL \$r< \$7\$^\$9!#

RTComponent.idl (1)

```
#include "RTMBase.idl"
#include "RTCInPort.idl"
#include "RTCOutPort.idl"

module RTM {
    interface RTComponent
    //      : NamedObject, PropertySet
    {
        readonly attribute string instance_id;
        readonly attribute string implementation_id;
        readonly attribute string description;
        readonly attribute string version;
        readonly attribute string maker;
        readonly attribute string category;

        typedef short ComponentState;

        const ComponentState RTC_UNKNOWN      = 0;
        const ComponentState RTC_BORN         = 1;
        const ComponentState RTC_INITIALIZING = 2;
        const ComponentState RTC_READY        = 3;
        const ComponentState RTC_STARTING     = 4;
        const ComponentState RTC_ACTIVE       = 5;
        const ComponentState RTC_STOPPING     = 6;
        const ComponentState RTC_ABORTING     = 7;
        const ComponentState RTC_ERROR        = 8;
        const ComponentState RTC_FATAL_ERROR  = 9;
        const ComponentState RTC_EXITING     = 10;

        exception IllegalTransition {};
    }
}
```

```
RT %3% s% j! <%M% s%H$NK \BN$H$ J$ k% *%V% 8% '% /%H$ N@k8 @ $G interface RTComponent %$% s%?! <
%U% ' !<%9$H$ 7$FD j5  Å5$ 1$F$ $$ ^$ 9! #RTM $N% $% s%?! <%U% ' !<%9D j5  ÅOA4$F RTM L>A06 4V$N2 <$G
D j5  Å5$ 1$ ^$ 9! #
```

`%W%m%U% !% $%k$Nattribute`

%3% s%]! <%M% s%H%W%m%U% !% \$%k> p s\$N0J2 <\$N9 'L\\$r attribute \$H\$ 7\$FD j5 A 7\$F\$ \$\$ ^\$ 9! #

! | % 3 % s %] ! < % M % s % H \$ N % W % m % U % ! % \$ % k > p J s

readonly attribute string instance_id;	%\$%?%9ID
readonly attribute string implementation_id;	%\$%W%j%a%F!<%7%g%sID
readonly attribute string description;	35MW@hL@
readonly attribute string version;	%P!<%8%g%s
readonly attribute string maker;	:n@.< T
readonly attribute string category;	%+F%4%j

5.3.3 %3%\$%!<%M%\$%H%"%/%F%#%S%F%#>uBV

%3%\$%!<%M%\$%H%"%/%F%#%S%F%#>N> uBV\$H\$7\$F!"CORBA \$N short 7?JQ?t\$H\$7\$F
 ComponentState \$r typedef \$7!"3F> BV\$rI=\$9 const Dj?t\$H\$7\$F0J2<\$N11 \$N> BV\$rDj
 5 A7\$F\$ \$\$ ^\$9! #

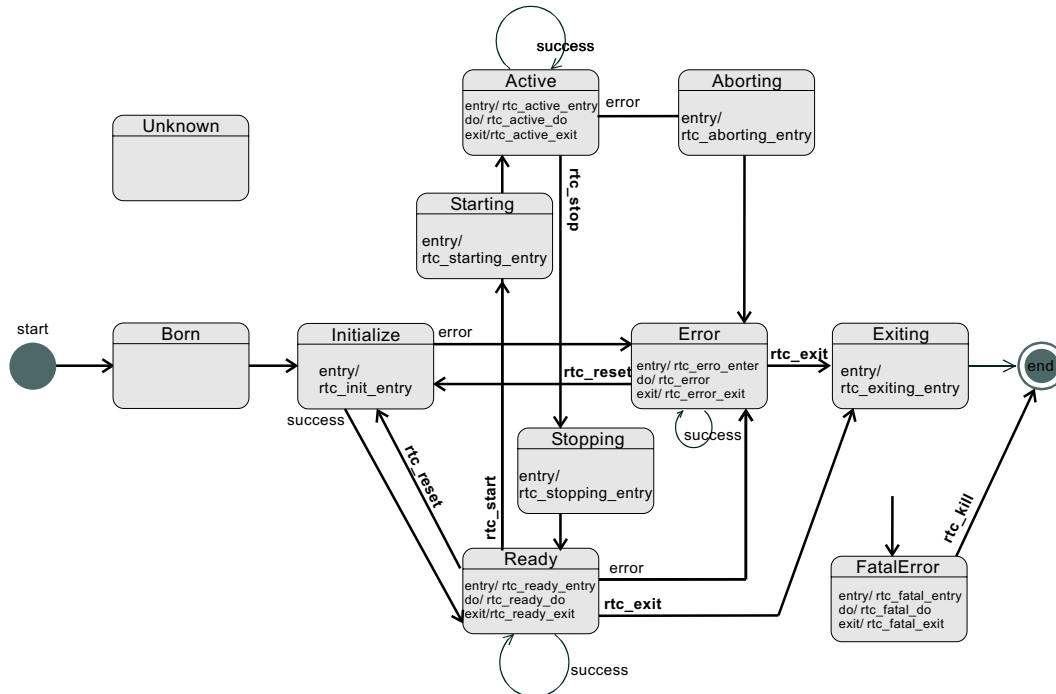
! | %3%\$%!<%M%\$%H%"%/%F%#%S%F%#>uBV

```

const ComponentState RTC_UNKNOWN      = 0;   UNKNOWN > BV
const ComponentState RTC_BORN          = 1;   BORN > BV
const ComponentState RTC_INITIALIZING = 2;   INITIALIZING > BV
const ComponentState RTC_READY        = 3;   READY > BV
const ComponentState RTC_STARTING     = 4;   STARTING > BV
const ComponentState RTC_ACTIVE       = 5;   ACTIVE > BV
const ComponentState RTC_STOPPING     = 6;   STOPPING > BV
const ComponentState RTC_ABORTING     = 7;   ABORTING > BV
const ComponentState RTC_ERROR        = 8;   ERROR > BV
const ComponentState RTC_FATAL_ERROR  = 9;   FATAL_ERROR > BV
const ComponentState RTC_EXITING      = 10;  EXITING > BV

```

> 5 \$N> BV\$Q?^5.3 \$N> BVA+0\ \$K=>\$ \$\$ ^\$9! #



?^5.3: RT %3%\$%!<%M%\$%H%"%/%F%#%S%F%#>BVA+0\ ?^

RTComponent.idl (2)

```

RtmRes rtc_worker();

RtmRes rtc_start() raises (IllegalTransition);
RtmRes rtc_stop() raises (IllegalTransition);
RtmRes rtc_reset() raises (IllegalTransition);
RtmRes rtc_exit() raises (IllegalTransition);
RtmRes rtc_kill();

readonly attribute OutPort rtc_state;

exception NoSuchName { string name; };
readonly attribute InPortList inports;
InPort get_inport(in string name) raises (NoSuchName);
readonly attribute OutPortList outports;
OutPort get_outport(in string name) raises (NoSuchName);

//! Return connector port object reference list
//  readonly attribute ConnectorList connectors;
//  OutPort get_connector(in string name) raises (NoSuchName);

//  readonly attribute PropertySet rtc_settings;
};

typedef sequence<RTComponent> RTComponentList;
}; // end of module RTM

```

```

rtc_worker() %*%Z%1! <%7%g% s$O%3% s%]! <%M% s%H$N% "%/%F% #S%F% #K\BN$ ,< BT$ 5$ 1$ k% *%Z%1! <
%7%g% s$G$9! #DL> $O! "FbIt$ +$ i< BT$ 5$ 13OI t$ +$ i8F$ S=F$ 5$ 1$ k$ 3$ H$ O$ "$ j$ ^$ ;$ s$ ,! "U#9g%3% s
%]! <%M% s%H$ r9=@ . $9$ k> 9g$ J$ I$ K3OI t$ NF14 |$ r< k%3% s%]! <%M% s%H$ J$ I$ +$ i8F$ S=F$ 5$ 1$ k$ 3$ H
$b$ "$ j$ ^$ 9! #

```

```

rtc_start()-rtc_kill() %*%Z%1! <%7%g% s$O%3% s%]! <%M% s%H$N> BV$rA+0\$5$ ;$k$?$a$N% *%Z
%1! <%7%g% s$H$ 7$FDj5 A$5$ 1$F$ $$ ^$9! #3% s%]! <%M% s%H% "%/%F% #S%F% #N> BVA+0\$O? ^5.3 $K$ 7
$?$ , $C$F9T$ o$ 1$ ^$9! #

```

```

8F$S=F$ 5$ 1$ k% *%Z%1! <%7%g% s$ ,8=:_$N> BV$K$ *$ $$EE, @Z$G$ J$ +$C$ ?> 9g! "IllegalTransition
$,H/@8$ 7$ ^$9! #

```

```

rtc_state $O%3% s%]! <%M% s%H$N> BV$r=ENC$ 9$ kOutPort %*%V%8% '%/%H$N% j%U% !%1% s%9$ rJV$ 7
$ ^$9! #3$NOutPort $rMQ$ $$F%3% s%]! <%M% s%H$N> BV$rpull 7?$ ^$ ?$Opush 7?%G! <%E>Aw$G< E@
$9$ k$ 3$ H$ ,=EMh$ ^$9! #

```

```

! | %3% s%]! <%M% s%H% "%/%F% #S%F% #H> uBVA+0\$ %*%Z%1! <%7%g% s

```

```
RtmRes rtc_worker();
```

```
% "%/%F% #S%F% #K\BN
```

```

RtmRes rtc_start() raises (IllegalTransition);
RtmRes rtc_stop() raises (IllegalTransition);
RtmRes rtc_reset() raises (IllegalTransition);
RtmRes rtc_exit() raises (IllegalTransition);
RtmRes rtc_kill();

```

```

ACTIVE > BV$XA+0\
READY > BV$XA+0\
INITIALIZING > BV$XA+0\
EXITING > BV$XA+0\
FATAL_ERROR > BV$N$H
$-EXITING > BV$XA+0\
%3% s%]! <%M% s%H> BV Out-
Port

```

```
readonly attribute OutPort rtc_state;
```

%3% s%]! <%M% s%H\$O1 \$D0J> @N%G! <% F ~ENO% *%V%8% '%/%H InPort/OutPort \$r; \$D\$ 3\$H\$,=FMh
\$ ^\$9! #0J2 <\$N% *%Z%1! <% 7%g% s\$r; MQ\$ 7\$ 3\$ 1\$ i\$N% *%V%8% '%/%H% j%U% !%1% s%9\$ r< @Q\$ 9\$ k\$ 3\$H\$,=P
Mh\$ ^\$9! #

! | InPort/OutPort

exception NoSuchName { string name;};	Nc30Dj5 A
readonly attribute InPortList inports;	InPortList \$r< @
InPort get_inport(in string name)	L>A0\$r; @j\$7InPort \$r< @
raises (NoSuchName);	
readonly attribute OutPortList outports;	OutPortList \$r< @
OutPort get_outport(in string name)	L>A0\$r; @j\$7OutPort \$r< @
raises (NoSuchName);	

:G8e\$K! "%3% s%]! <%M% s%H\$N% *%V%8% '%/%H% j%U% !%1% s%9\$ r%7! <%1% s%9\$H\$ 7\$FJ]B8\$9\$k
RTComponentList \$d j5 A 7\$F\$ \$ \$ ^\$9! #J #? t\$N% 3% s%]! <%M% s%H\$ r\$ ^\$H\$ a\$F0 7\$ & 9g\$K; MQ\$ 7\$ ^\$9! #

5.3.4 RTCInPort.idl

RTCInPort.idl

```
#include "RTMBase.idl"

module RTM {
    typedef string SubscriptionID;

    struct PortProfile
    {
        string name;
        CORBA::TypeCode port_type;
        NVList properties;
    };

    interface InPort
    {
        exception Disconnected{};

        void put(in any data) raises(Disconnected);

        readonly attribute PortProfile profile;
    };

    typedef sequence<InPort> InPortList;
    typedef sequence<PortProfile> PortProfileList;
}; // end of module RTM
```

\$^\$::!"CORBA string 7?\$H\$7\$F SubscriptionID \$rDj5 7\$F\$ \$\$^\$9! #SubscriptionID \$O
OutPort \$r%5%V%9/%i%\$%V\$9\$k:]\$Nk 1LID \$G! "DL> \$OUUID \$r; MQ\$ 7\$^\$9! #

9=B\$BNPortProfile \$OInPort/OutPort \$N%W% m%U% !%\$%k> p s\$ r3JG<\$9\$k9=B\$BN\$G\$9! #H% C%W
%l%Y%k\$K\$O! "%]! <%HL>: name \$H%]! <%H7?: port_type \$N\$ _r\$b\$A! "\$=\$NB>\$N> p s\$ ONamedValue
\$N% 7! <%l% s%9: NVList \$H\$ 7\$FJ]; \$ 7\$^\$9! #

InPort \$N% \$% s%?! <%U% '!' <%9@k8 @ \$G\$O! "InPort \$K%G! <%? \$rAw\$ kput() %\$% s%?! <%U% '!' <%9\$, \$ "\$j! "
\$3\$1\$K\$h\$jInPort \$K%G! <%? \$rEO\$9\$3\$H\$, =FMh\$^\$9! # \$9\$G\$K! " @ \B3\$, @ ZC\$5\$1\$F\$ \$\$kOutPort \$+
\$iput \$r8F\$S=F\$9\$HDisconnected Nc3 0\$, H/@8\$ 7\$^\$9! #InPort \$N%W% m%U% !%\$%k%G! <%? \$O% a% s%P
\$Nprofile \$K3JG<\$5\$1\$F\$ \$\$^\$9! #

5.3.5 RTCOutPort.idl

RTCOutPort.idl

```
#include "RTMBase.idl"
#include "RTCInPort.idl"

module RTM {
    typedef short SubscriptionType;

    const SubscriptionType OPS_ONCE = 0;
    const SubscriptionType OPS_PERIODIC = 1;
    const SubscriptionType OPS_NEW = 2;
    const SubscriptionType OPS_TRIGGERED = 3;
    const SubscriptionType OPS_PERIODIC_NEW = 4;
    const SubscriptionType OPS_NEW_PERIODIC = 5;
    const SubscriptionType OPS_PERIODIC_TRIGGERED = 6;
    const SubscriptionType OPS_TRIGGERED_PERIODIC = 7;

    struct SubscriberProfile
    {
        SubscriptionType subscription_type;
        boolean event_base;
        NVList properties;
    };

    interface OutPort
    {
        any get();
        RtmRes subscribe(in InPort in_port, out SubscriptionID id,
                        in SubscriberProfile profile);
        RtmRes unsubscribe(in SubscriptionID id);
        readonly attribute InPortList inports;
        readonly attribute PortProfile profile;
    };

    typedef sequence<OutPort> OutPortList;
}; // end of module RTM
```

\$^\$: \$Q\$ 8\$ a\$K! "OutPort \$r%5%V%9%/%i%\$%V\$9\$K:]\$N%b! <%I SubscriptionType \$rCORBA
short 7?G\$ typedef \$7\$F\$ \$\$^\$9! #

%5%V%9%/%j%W%7%g%\$7 2Dj? t\$C0J2 <\$N\$h\$&\$KDj5 A5\$1\$F\$ \$\$^\$9! #

! | %5%V%9%/%j%W%7%g%\$7?

OPS_ONCE	= 0;	0 1EY\$ @ \$1%G! <% ?< E @ \$ 9\$K
OPS_PERIODIC	= 1;	0 1D j< 4 \$G%G! <% ?Aw? .
OPS_NEW	= 2;	%G! <% ?99? 7; \$K%G! <% ?Aw? .
OPS_TRIGGERED	= 3;	%H% j%,\$K\$h\$ j%G! <% ?Aw? .
OPS_PERIODIC_NEW	= 4;	0 1D j< 4 \$G%G! <% ?99? 7; \$N\$ _Aw? .
OPS_NEW_PERIODIC	= 5;	%G! <% ?99? 7; \$KAw? .! &0 1D j< 4 \$G Aw? .
OPS_PERIODIC_TRIGGERED	= 6;	0 1D j< 4 \$G%H% j%,; \$N\$ _Aw? .
OPS_TRIGGERED_PERIODIC	= 7;	%H% j%,; \$KAw? .! &0 1D j< 4 \$G Aw? .

OPS_ONCE \$G\$O%5%V%9%/%i%\$%V8e0 1EY\$ @ \$1%G! <% ?\$r< E @ \$ 7\$F@ \B3\$, @ZC\$ 5\$1\$^\$9! #

OPS_PERIODIC \$O; 8j\$ 7\$?< 4 |\$G%G! <% ?Aw? . \$r%5%V%9%/%i%\$%P\$KAw? . \$7\$^\$9! #

OPS_NEW \$OOutPort \$N%G! <% ?\$, 99? 7\$5\$1< Bh\$9\$Q\$K%5%V%9%/%i%\$%P\$K%G! <% ?\$, Aw? . \$5\$1\$^\$9! #

OPS_TRIGGERED \$G\$O! "M=\$a@_D j\$5\$1\$?%H% j%,\$K\$h\$ j%H% j%,\$H/@8\$ 7\$?\$H\$-\$K%G! <% ?\$, Aw? . \$5
\$1\$^\$9! # %H% j%,\$H\$O! "%]! <%H\$4\$H\$K@_D j\$5\$1\$KAw? .> 7o\$G! "Nc\$ (\$P! vOutPort \$NcM\$, 4.0 0J> e
\$K\$J\$C\$?\$ iAw? .! W\$J\$ I\$N\$h\$&\$J> 7o\$N\$3\$H\$G\$9! #

OSP_PERIODIC_NEW \$O%G! <% ?9 9? 7; \$N\$ _! 'M=\$a@_D j\$ 5\$ 1\$?< 4 |\$N% ?% \$% _% s% 0\$ G%G! <% ?\$,Aw? .
 \$ 5\$ 1\$ ^\$ 9! #< 4 |\$, Δt [s] \$K@_D j\$ 5\$ 1\$?\$H\$ -! "%G! <% ?Aw? . \$N% ?% \$% _% s% 0\$ O! "%G! <% ?\$, 9 9? 7\$ 5\$ 1\$ F
 \$ +\$ i: G\$b6 \$ \$ n Δt [s] \$K9 T\$ o\$ 1\$ ^\$ 9! #

OPS_NEW_PERIODIC \$G\$ O! "%G! <% ?9 9? 7; \$K\$ 9\$ 0\$ K%G! <% ?\$ QAw? . \$ 5\$ 1\$ ^\$ 9\$,! "\$=\$ 10 J9 _\$ O%G! <
 % ?\$, 9 9? 7\$ 5\$ 1\$ B 3\$ 1\$ k8 B\$ j\$ 00 1D j< 4 |\$G Aw? . \$ 5\$ 1\$ ^\$ 9! #

OPS_PERIODIC_TRIGGERED \$G\$ O! "OPS_PERIODIC_NEW \$NAw? .> 7 o\$, %H% j%, \$KJ Q\$ o\$ k\$ @ \$ 1\$ G! "
 \$=\$N\$ [\$ +\$N F 0: n\$ O OPS_PERIODIC_NEW \$H F 1\$ 8\$ K\$ J\$ j\$ ^\$ 9! #

OPS_TRIGGERED_PERIODIC \$G\$ O! 'OPS_NEW_PERIODIC \$NAw? .> 7 o\$, %H% j%, \$KJ Q\$ o\$ k\$ @ \$ 1\$ G! "
 \$=\$N\$ [\$ +\$N F 0: n\$ O OPS_NEW_PERIODIC \$H F 1\$ 8\$ K\$ J\$ j\$ ^\$ 9! #

SubscriptionType \$r4 ^\$ a\$?% 5% V% 9% /% i% \$% V\$ K4 X\$ 9\$ k% 5% V% 9% /% i% \$% P\$ N% W% m% U% !% \$% k\$ rD j5 A
 \$ 7\$ F\$ \$ \$ k\$ N\$,! "< \$NSubscriberProfile \$G\$ 9! #

```
struct SubscriberProfile
{
    SubscriptionType subscription_type;
    boolean event_base;
    NVList properties;
};
```

SubscriptionType subscription_type \$K> 5 \$NSubscriptionType \$r; 8 j\$ 7\$ ^\$ 9! # %5% V
 % 9% /% j% W% 7% g% s\$, % \$% Y% s% H\$ K0 M B 8\$ 9\$ k\$ +H] \$ +\$ r CORBA Boolean 7 ?\$ G event_base \$K; 8 j\$ 7
 \$ ^\$ 9! # %5% V% 9% /% j% W% 7% g% s\$ K4 X\$ 9\$ k\$ =\$N B> \$N% W% m% Q% F% # \$ O NVList properties \$K; 8 j\$ 7\$ ^\$ 9! #

OutPort \$r% 5% V% 9% /% i% \$% V\$ 9\$ k> 9 g\$ K\$ O! "\$ 3\$ N9 =B \$B N\$ K E, @ Z\$ J% G! <% ?\$ r% ;% C% H\$ 7\$ F! 'OutPort
 \$Nsubscribe() % *% Z% 1! <% 7% g% s\$ r8 F\$ S= P\$ 5\$ J\$ 1\$ 1\$ P\$ J\$ j\$ ^\$;\$ s! #

< \$K OutPort % \$% s% ?! <% U% ' ! <% 9\$ G\$ 9! #

```
interface OutPort
{
    any get();
    RtmRes subscribe(in InPort in_port, out SubscriptionID id,
                     in SubscriberProfile profile);
    RtmRes unsubscribe(in SubscriptionID id);
    readonly attribute InPortList inports;
    readonly attribute PortProfile profile;
};

typedef sequence<OutPort> OutPortList;
```

get() % *% Z% 1! <% 7% g% s\$ G\$ O! "8=: _\$NOutPort \$NCM\$ rAny 7 ?\$ G< 8 @ \$ 9\$ k\$ 3\$ H\$, =FMh\$ ^\$ 9! #

D j4 |E *\$ K%G! <% ?\$ rpush 7 ?\$ G Aw\$ C\$ F\$ [\$ 7\$ > 9 g\$ K\$ O subscribe() % *% Z% 1! <% 7% g% s\$ G% 5% V% 9% /
 % i% \$% V\$ 7\$ ^\$ 9! # 0 z? t\$ K\$ O! "%5% V% 9% /% i% \$% V\$ 9\$ k InPort \$N% *% V% 8% ' % /% H% j% U% !% 1% s% 9\$ H! "%5% V% 9
 % /% i% \$% P\$ N% W% m% U% !% \$% k9 =B \$B N\$ r; 8 j\$ 7\$ ^\$ 9! # subscribe() \$, @ .8 y\$ 9\$ k\$ H RtmRes \$K RTM_OK

\$,La\$jCM\$H\$7\$FJV\$j! "SubscriptionID id \$K UUID (Universally Unique Identifier) \$rJV\$7
\$^\$9! #

%5%V%9%/%i%\$%V\$r\$d\$a\$k\$H\$-\$K\$O\$3\$N\$UUID \$r; Øj\$7\$Funsubscribe() %*%Z%1! <%7%g%\$r
H/9T\$7\$^\$9! #

OutPort \$O%5%V%9%/%i%\$%V\$7\$F\$ \$\$kInPort \$N%j%9%H InPortList inports \$r attribute
\$H\$7\$FJ]; \$7\$F\$ \$\$^\$9! # \$^\$?! "OutPort < ?H\$N%W%n%U%!%\$%k\$H\$7\$FPortProfile profile \$r
attribute \$H\$7\$FJ]; \$7\$F\$ \$\$^\$9! #

5.4 OpenRTM-aist %\$%\$?!<%U% '!<%9Dj5A

OpenRTM-aist \$G\$O "RTM Specification \$K4p\$E\$-! "\$\$\$/\$D\$+\$N%\$%\$?!<%U% '!<%9\$N3HD%\$H! " ?7\$?J%*%V%8% '%/%H%\$%\$?!<%U% '!<%9\$NDj5 ÅrDI2C\$7\$F\$ \$\$^\$9! #

! | **OpenRTM-aist** %\$%\$?!<%U% '!<%9Dj5AIDL %U% !%\$%k

RTCBase.idl	RTComponent \$r3HD%\$9\$k%\$%\$?!<%U% '!<%9\$rDj5 A
RTCProfile.idl	RTComponent \$,; \$D%W% m%U% !%\$%k\$r3HD%\$79=B\$BN\$H\$7\$FDj5 A
RTCDataType.idl	InPort/OutPort \$N\$? \$a\$NI 8= 'E*\$J%G!<%?%\$%W\$rDj5 A
RTCMnager.idl	RTComponent \$N% i%\$%U%5%\$%/%k\$r4IM}\$9\$k% ^%M!<%8%c

5.4.1 RTCBase.idl

OpenRTM-aist \$G\$O RTComponent %\$%\$?!<%U% '!<%9\$r3HD%\$7\$?%\$%\$?!<%U% '!<%9Dj5 A
 RTCBase \$rDs6 \$7\$^\$9! #3HD%\$%\$?!<%U% '!<%9\$O< \$K! "J#9g%3%\$%]!<%M%\$%H\$r9=Q.\$9\$k\$?\$a
 \$KI,MW\$J%\$%\$?!<%U% '!<%9\$rDj5 Å7\$F\$ \$\$^\$9! #

RTCBase.idl

```
#include "RTComponent.idl"
#include "RTCProfile.idl"

module RTM {

    interface RTCBase;
    typedef sequence<RTCBase> RTCBaseList;

    interface RTCBase
    : RTComponent
    {
        RtmRes rtc_ready_entry();
        RtmRes rtc_ready_do();
        RtmRes rtc_ready_exit();
        RtmRes rtc_active_entry();
        RtmRes rtc_active_do();
        RtmRes rtc_active_exit();
        RtmRes rtc_error_entry();
        RtmRes rtc_error_do();
        RtmRes rtc_error_exit();
        RtmRes rtc_fatal_entry();
        RtmRes rtc_fatal_do();
        RtmRes rtc_fatal_exit();
        RtmRes rtc_init_entry();
        RtmRes rtc_starting_entry();
        RtmRes rtc_stopping_entry();
        RtmRes rtc_aborting_entry();
        RtmRes rtc_exiting_entry();

        RtmRes rtc_stop_thread();
        RtmRes rtc_start_thread();

        RtmRes rtc_set_parent(in RTCBase comp);
        RtmRes rtc_add_component(in RTCBase comp);
        RtmRes rtc_delete_component(in RTCBase comp);
        RtmRes rtc_replace_component(in RTCBase comp1, in RTCBase comp2);
        RtmRes rtc_replace_component_by_name(in string name1, in string name2);
        RTCBaseList rtc_components();
        RTCBase rtc_get_component(in string name);

        RtmRes rtc_attach_inport(in InPort in_port);
        RtmRes rtc_attach_inport_by_name(in RTCBase comp, in string name);
        RtmRes rtc_detach_inport(in InPort in_port);
        RtmRes rtc_detach_inport_by_name(in string name);
    }
}
```

```

RtmRes rtc_attach_outport(in OutPort out_port);
RtmRes rtc_attach_outport_by_name(in RTCBase comp, in string name);
RtmRes rtc_detatch_outport(in OutPort out_port);
RtmRes rtc_detatch_outport_by_name(in string name);

readonly attribute RTCProfile profile;
};
};

```

%3% s%]! <%M% s%H% "%/%F% #S%F% #N3F> BV\$KBP1 ~\$9\$ k% a% =%C% I\$ r! "CORBA % *% Z% 1! <% 7% g% s\$H
\$ 7\$ FD j5 Å 7\$ F\$ \$ \$ ^\$ 9! #

% "%/%F% #S%F% # % *% Z% 1! <% 7% g% s

```

RtmRes rtc_ready_entry();
RtmRes rtc_ready_do();
RtmRes rtc_ready_exit();
RtmRes rtc_active_entry();
RtmRes rtc_active_do();
RtmRes rtc_active_exit();
RtmRes rtc_error_entry();
RtmRes rtc_error_do();
RtmRes rtc_error_exit();
RtmRes rtc_fatal_entry();
RtmRes rtc_fatal_do();
RtmRes rtc_fatal_exit();
RtmRes rtc_init_entry();
RtmRes rtc_starting_entry();
RtmRes rtc_stopping_entry();
RtmRes rtc_aborting_entry();
RtmRes rtc_exiting_entry();

```

\$ 3\$ 1\$ i\$ N% *% Z% 1! <% 7% g% s\$ rD j5 Å 9\$ k\$ 3\$ H\$ K\$ h\$ j! "% "%/%F% #S%F% # \$ r< BT\$ 9\$ k< BN(% 9% 1% C% I)
\$ r% 3% s%]! <%M% s%H\$ N3 OI t\$ KC V\$ /\$ 3\$ H\$,=FMh\$ k\$ h\$ &\$ K\$ J\$ j\$ ^\$ 9! # \$ 3\$ 1\$ O! "J#? t\$ N% 3% s%]! <%M% s%H
\$ r% 0% k! <% W2=\$ 7% "%/%F% #S%F% # \$ rF 14 |E *\$ +\$ D% 7! <% 1% s% 7% c% k\$ K< BT\$ 9\$ kF 14 |J #9 g% 3% s%]! <%M% s
% H\$ K\$ *\$ \$ \$ F; MQ\$ 9\$ k\$ 3\$ H\$ rL \E *\$ H\$ 7\$ F\$ \$ \$ ^\$ 9! #

% "%/%F% #S%F% # % *% 9% 1% C% I@)8 f% Z% 1! <% 7% g% s

```

RtmRes rtc_stop_thread();
RtmRes rtc_start_thread();

```

\$ 3\$ 1\$ i\$ N% *% Z% 1! <% 7% g% s\$ K\$ h\$ j% 3% s%]! <%M% s%H\$ bI t\$ N% "%/%F% #S%F% # \$ r< BT\$ 9\$ k% 9% 1% C% I\$ N
< BT\$ r@)8 f\$ 9\$ k\$ 3\$ H\$,=FMh\$ ^\$ 9! #J #9 g% 3% s%]! <%M% s%H\$ K\$ *\$ \$ \$ F\$ O! "% "%/%F% #S%F% #< BT\$ N< BN
\$ G\$ "\$ k% 9% 1% C% I\$ r3 OI t\$ KC V\$ /\$?\$ a! "% 3% s%]! <%M% s%H\$ bI t\$ N% 9% 1% C% I\$ rDd; \$ 5\$;\$ J\$ 1\$ 1\$ F\$ J\$ j\$ ^
\$;\$ s! # \$ 7\$?\$, \$ C\$ F! "3 OI t\$ +\$ i% 3% s%]! <%M% s%H% "%/%F% #S%F% # % 9% 1% C% I\$ r@)8 f\$ 9\$ kI ,MW@ -\$ +\$ i! "\$ 3
\$ 1\$ i\$ N% \$ % s% ?! <% U% '! <% 9\$,D j5 Å 5\$ 1\$ F\$ \$ \$ ^\$ 9! #

% 3% s%]! <%M% s%H\$ N? F; R4 X7 8\$ r@)8 f\$ 9\$ k% *% Z% 1! <% 7% g% s

```

RtmRes rtc_set_parent(in RTCBase comp);
RtmRes rtc_add_component(in RTCBase comp);
RtmRes rtc_delete_component(in RTCBase comp);
RtmRes rtc_replace_component(in RTCBase comp1, in RTCBase comp2);
RtmRes rtc_replace_component_by_name(in string name1, in string name2);
RTCBaseList rtc_components();
RTCBase rtc_get_component(in string name);

```

\$3\$1\$i\$N%*%Z%1!<%7%g\$s\$O%3%\$%]!<%M%\$H\$N?F; R3X78\$r@)8f\$9\$k\$?a\$N%3%\$%]!<%M%\$H\$G\$9!#
DL> \$N1BN\$N%3%\$%]!<%M%\$H\$G\$O!"rtc_set_parent() %*%Z%1!<%7%g\$s\$Q58z\$K\$J\$jRTM_ERR
\$rJV\$7\$^\$9!#J#9g%3%\$%]!<%M%\$H\$G\$O!"\$3\$1\$i\$N%*%Z%1!<%7%g\$s\$r; MQ\$7J#?t\$N%3%\$%]!<%M%\$
%H\$r; R \$H\$7\$F=jM-\$9\$k\$3\$H\$,=EMh\$^\$9!#

InPort %"%?%C%A%*%Z%1!<%7%g\$s

```

RtmRes rtc_attach_inport(in InPort in_port);
RtmRes rtc_attach_inport_by_name(in RTCBase comp, in string name);
RtmRes rtc_detatch_inport(in InPort in_port);
RtmRes rtc_detatch_inport_by_name(in string name);

```

\$3\$1\$i\$N%*%Z%1!<%7%g\$s\$r; MQ\$9\$k\$3\$H\$K\$h\$jJ#9g%3%\$%]!<%M%\$H\$,=jM-\$9\$k; R3%\$%]!<%M
%\$H\$NInPort \$r?F\$G\$"k\$J#9g%3%\$%]!<%M%\$H\$NInPort \$H\$7\$F:FDj5 AG\$-\$k\$h\$&\$K\$J\$j\$^\$9!#< B
:]\$K\$O!"?F%3%\$%]!<%M%\$H\$G; R3%\$%]!<%M%\$H\$NInPort \$N%*%V%8%'/%H%j%U%!%1%\$9\$rJ]; \$7
F\$F\$k\$@1\$G\$9!#

OutPort %"%?%C%A%*%Z%1!<%7%g\$s

```

RtmRes rtc_attach_outport(in OutPort out_port);
RtmRes rtc_attach_outport_by_name(in RTCBase comp, in string name);
RtmRes rtc_detatch_outport(in OutPort out_port);
RtmRes rtc_detatch_outport_by_name(in string name);

```

\$3\$1\$i\$N%*%Z%1!<%7%g\$s\$r; MQ\$9\$k\$3\$H\$K\$h\$jJ#9g%3%\$%]!<%M%\$H\$,=jM-\$9\$k; R3%\$%]!<%M
%\$H\$NOutPort \$r?F\$G\$"k\$J#9g%3%\$%]!<%M%\$H\$NOutPort \$H\$7\$F:FDj5 AG\$-\$k\$h\$&\$K\$J\$j\$^
\$9!#< B]\$K\$O!"?F%3%\$%]!<%M%\$H\$G; R3%\$%]!<%M%\$H\$NOutPort \$N%*%V%8%'/%H%j%U%!%1%\$9
\$rJ]; \$7\$F\$F\$k\$@1\$G\$9!#

5.4.2 RTCProfile.idl

RTCProfile.idl \$G\$O! !RTCProfile %\$%\$?! <%U\$ '! <%9\$ rD j5 A 7\$F\$ \$\$ ^\$ 9! #RTCProfile \$O! !
 RTComponent \$Ninstance_id, implementation_id Ey\$N%W%\$%U% !%\$%kD j5 A r3HD %\$ 7! "9=B \$\$K
 \$ 7\$?\$ b\$N\$G\$ 9! #RTCBASE \$G\$O\$ 3\$N%W%\$%U% !%\$%k\$ r< E@ \$ 9\$ k% *%Z% 1! <% 7% g% s\$,3HD %\$ 5\$ 1! "%W%\$%U% !
 %\$%kA 4BN\$ r1 EY\$K< E@ \$G\$ - \$k\$ h\$ &\$K\$ J\$ C\$F\$ \$\$ ^\$ 9! #

RTCProfile.idl

```

module RTM {
    interface RTComponent;

    enum RTComponentType {
        STATIC,
        UNIQUE,
        COMMUTATIVE
    };

    enum RTActivityType {
        PERIODIC,
        SPORADIC,
        EVENT_DRIVEN
    };

    enum RTCLangType {
        COMPILE,
        SCRIPT
    };

    struct RTCProfile
    {
        string name;
        string instance_id;
        string implementation_id;
        string description;
        string version;
        string maker;
        string category;
        RTComponentType component_type;
        RTActivityType activity_type;
        long max_instance;
        string language;
        RTCLangType language_type;
        string module_profile_file;
        PortProfileList outport_profile_list;
        PortProfileList inport_profile_list;
    };
};

```

0J2 <\$Ninstance_id, implementation_id Ey\$K\$D\$ \$\$F\$O RTComponent.idl \$@ j5 A 5\$ 1\$F
 \$ \$\$k\$ b\$N\$ HA 4\$ /F 1\$ 8\$G\$ 9! #

! | 4pK\E *\$J%W%\$%U% !%\$%k

```

    string instance_id;
    string implementation_id;
    string description;
    string version;
    string maker;
    string category;

```

RTComponentType \$O%3%\$%! <%M%\$H\$N% ?%\$%W\$r; Ø j\$ 7\$ ^\$ 9! #%3%\$%! <%M%\$H% ?%\$%W\$H\$O! "Q 8
 @ . \$5\$ 1\$ k%3%\$%! <%M%\$H\$N% \$%\$%9% ?%\$%9\$N7A< Ø r; X 7\$ ^\$ 9! #%3%\$%! <%M%\$H% ?%\$%W\$K\$O0J2 <\$N

\$b\$N\$,,\$"j\$^\$9! #

! | RTComponentType

STATIC	%3%\$%!<%M%\$H\$O% ^%M!<%8% c\$KEFO ?\$ 5\$ 1\$ k\$ HF 1; \$K% \$% \$% 9 % ?% \$% 92=\$ 5\$ 1! "?" 7\$?\$ K@ 8@ . \$ 9\$ k\$ 3\$ H\$ O\$ G\$ -\$ J\$ \$! #% O!<% I% & % (% "\$KL)@ \ \$K4X78\$ 9\$ k% 3% \$%!<%M% \$% H\$y\$ O\$ 3\$ N% ?% \$% W\$ K\$ 9 \$ k\$ H% O!<% I% &% (% "\$H% 3% \$%!<%M% \$% H\$ NBP1 ~\$,\$ H\$ j\$ d\$ 9\$ \$! # UNIQUE %3%\$%!<%M% \$% H\$ CF OE *\$K@ 8@ .!&: o= \$ 9\$ k\$,\$ G\$ -\$ k\$,! "com- ponent0 \$H component1 \$O0 [\$J\$ kF bI t> BV\$r; \$A8r492D G=\$G\$ O\$ J\$ \$! # COMMUTATIVE %3%\$%!<%M% \$% H\$ O! "B_\$ \$\$K8r492DG=! #=\$%U% H% &% (" \$N% m% 8% C % /\$N\$ _\$N% 3% \$%!<%M% \$% H\$ O\$ 3\$ N% ?% \$% W\$ K\$ J\$ k! #
--------	--

RTActivityType \$O% 3% \$%!<%M% \$% H\$ N% "%/%F% #% S% F% # \$N% ?% \$% W\$ r; 8j\$ 7\$ ^\$9! #% 3% \$%!<%M% s
% H\$ N% "%/%F% #% S% F% #% ?% \$% W\$ O0J2<\$N% ?% \$% W\$,,\$"j\$^\$9! #

! | RTActivityType

PERIODIC	%3%\$%!<%M% \$% H\$ N3hF O\$ O0 1D j< 4 \$ G\$ T\$ o\$ 1\$ ^\$9! # \$?\$ @ \$ 7! " F0:n< 4 \$ r< \$ 1\$ k\$ +H]\$ +\$ O! "OS \$K0MB8\$ 7\$ ^\$9! #% j% "%k% ? % \$% ' OS(ART-LINUX) \$r; HQ\$ 9\$ 1\$ P0 1D j< 4 F0:n\$ r9T\$ o \$,\$ k\$ 3\$ H\$ O\$ G\$ -\$ ^\$9\$,! "Hs% j% "%k% ?% \$% ' OS \$G\$ O8 7L)\$ J< ~ 4 F0:n\$ r\$ 5\$,\$ k\$ 3\$ H\$ OI T2DG=\$G\$9! # SPORADIC %3%\$%!<%M% \$% H\$ N3hF O\$ N< 4 \$ O0 1D j\$ G\$ O\$ J\$ \$\$,! "7+\$ jJV\$ 7 9T\$ o\$ 1\$ ^\$9! # EVENT_DRIVEN 3OI t\$+\$ i\$ N% *%Z% 1!<% 7% g% s\$ K\$ h\$ j< EOE *\$KF0:n\$ 7\$ ^\$9! #
----------	--

\$=\$NB>\$N9 'L \ \$K\$ D\$ \$\$F\$ O0J2<\$N\$ H\$ *\$ j\$ G\$9! #

! | \$=\$NB>

long max_instance;	:GBg\$N% \$% \$% 9% ?% \$% 9? t! !
string language;	%3%\$%!<%M% \$% H\$ =R8@81
RTCLangType language_type;	%3%\$%!<%M% \$% H\$ =R8@817?
string module_profile_file;	%b% 8% e!<%k% W% m% U% !% \$% k% U% !% \$% kL>

\$^\$?! "RTCProfile \$OInPort/OutPort \$N% W% m% U% !% \$% k\$ b% j% 9% H\$ H\$ 7\$ FJ]; \$ 7\$ F\$ \$\$ ^\$9! #

! | InPort/OutPort %W% m% U% !% \$% k% j% 9% H

PortProfileList outport_profile_list;	InPort %W% m% U% !% \$% k\$ N% j% 9% H
PortProfileList inport_profile_list;	OutPort %W% m% U% !% \$% k\$ N% j% 9% H

PortProfileList \$ORTCInPort.idl \$GDj5 A5\$ 1\$ F\$ \$\$k PortProfile \$N% 7!<%1% \$% 9\$ G\$9! #

5.4.3 RTCDatatype.idl

0J2<\$K! "RTCDatatype.idl \$r< \$7\$^\$9! #

RTCDatatype.idl (4pK\7?)

```
#include "RTMBase.idl"

module RTM {
    struct TimedState
    {
        Time tm;
        short data;
    };
    struct TimedShort
    {
        Time tm;
        short data;
    };
    struct TimedLong
    {
        Time tm;
        long data;
    };
    struct TimedUShort
    {
        Time tm;
        unsigned short data;
    };
    struct TimedULong
    {
        Time tm;
        unsigned long data;
    };
    struct TimedFloat
    {
        Time tm;
        float data;
    };
    struct TimedDouble
    {
        Time tm;
        double data;
    };
    struct TimedChar
    {
        Time tm;
        char data;
    };
    struct TimedBoolean
    {
        Time tm;
        boolean data;
    };
    struct TimedOctet
    {
        Time tm;
        octet data;
    };
    struct TimedString
    {
        Time tm;
        string data;
    };
};
```

OpenRTM-aist \$G\$O! "InPort/OutPort \$G\$d\$j< Ĥj\$9\$k%G! <?7? \$H\$7\$F%?%\$% ' %9%?%s%WIU\$ –
\$N%G! <?7? \$r! "CORBA \$M4pK\7? \$H\$= \$N%7! <?1% s%97? \$K\$D\$ \$\$FDs6 \$7\$F\$ \$\$^\$9! #

RTCDatatype.idl (%7! <%1% s%97?)

```
struct TimedShortSeq
{
    Time tm;
    sequence<short> data;
};
struct TimedLongSeq
```



```
{
    Time tm;
    sequence<long> data;
};
struct TimedUShortSeq
{
    Time tm;
    sequence<unsigned short> data;
};
struct TimedULongSeq
{
    Time tm;
    sequence<unsigned long> data;
};
struct TimedFloatSeq
{
    Time tm;
    sequence<float> data;
};
struct TimedDoubleSeq
{
    Time tm;
    sequence<double> data;
};
struct TimedCharSeq
{
    Time tm;
    sequence<char> data;
};
struct TimedBooleanSeq
{
    Time tm;
    sequence<boolean> data;
};
struct TimedOctetSeq
{
    Time tm;
    sequence<octet> data;
};
struct TimedStringSeq
{
    Time tm;
    sequence<string> data;
};
};
```

5.4.4 RTCManager.idl

RTCManager \$ORTComponent \$Nb%8%e! <%k\$N% m! <% I! "% \$s%9% ?%s%92=Ly\$N% i% \$%U% 5% \$% /%k4 I
M}\$r9T\$ &%*V%8% '%/%H\$G\$9! #

RTCProfile.idl

```
#include "RTMBase.idl"
#include "RTComponent.idl"
#include "RTCBase.idl"

module RTM
{
    typedef sequence<string> ComponentFactoryList;

    interface RTCManager
    {
        RtmRes load(in string pathname, in string initfunc);
        RtmRes unload(in string pathname);
        RTCBase create_component(in string comp_name,
                                out string instance_name);
        RtmRes delete_component(in string instance_name);
        ComponentFactoryList component_factory_list();
        RTCBaseList component_list();
        RtmRes command(in string cmd, out string ret);
    };
}; // end of namespace RTM
```

%@%\$%J%_%C%/\$K%b%8%e! <%k\$r% m! <% I! &% "%s% m! <% I\$9\$k\$?\$a\$N! "load(), unload() %*%Z%1! <
%7%g% s\$,D j5 5\$1\$F\$ \$\$^\$9! #

! | %b%8%e! <%k\$N% m! <% I! &% "%s% m! <% I% *%Z%1! <%7%g% s

```
load(in string pathname, in string initfunc);    %b%8%e! <%k$N% m! <% I
unload(in string pathname);                      %b%8%e! <%k$N% "%s% m! <% I
```

\$^\$?! "create_component(), delete_component() \$O%3% s%]! <%M% s%H\$N%8%8% .! &: =|\$r9T\$ &
%*%Z%1! <%7%g% s\$G\$9! #

! | %3% s%]! <%M% s%H\$N%8%8% .! &: =|\$r9T\$ &%*%Z%1! <%7%g% s

```
create_component(in string comp_name,             %3% s% ]! <%M% s%H$N%8%8% .
                out string instance_name);
delete_component(in string instance_name);        %3% s% ]! <%M% s%H$N%8%8% .
```

\$=\$NB>\$N% *%Z%1! <%7%g% s\$H\$7\$F\$O! "%3% s%]! <%M% s%H\$N%8%8% . \$9\$k%U% !%/%H% j\$N% j%9%H\$ r< H@\$9
\$k component_factory_list() \$d! "8=_%\$% s%9% ?%s%92=\$5\$1\$F\$ \$\$k%3% s%]! <%M% s%H\$N% j%9%H
\$ r< H@\$9\$k component_list() \$,\$ "\$j\$^\$9! #

! | \$=\$NB>\$N% *%Z%1! <%7%g% s

```

component_factory_list();           %3% s% ]! <%M% s%H%U% !% /%H% j$N% j%9%H
component_list();                   %3% s% ]! <%M% s%H$N% j%9%H
command(in string cmd, out string ret); 4JUW%3% ^%s%I%$%s%?%W%j%?

```

5.5 OpenRTM-aist \$N3HD%%*%Z%1! <%7%g% s\$HI 8= '2=

8=:_! "RTM Specification \$OI 8= '2=:n6 ĤNE SC f\$G\$ "\$ j! "\$ 3\$ 3\$ G< \$ 7\$?%\$% s%?! <%U% '!' <%9; ĤM
 \$O: #8eJQ\$ o\$ k2DG=ġ-\$,\$ "\$ j\$ ^\$9! #I 8= '2=\$r9 T\$ &2aDx\$G! "< B]\$KB ?\$ /\$N% "%W% j%1! <%7%g% s\$K; MQ
 \$ 7\$?7k2L\$ +\$ i\$N%U%#! <%I%P%C% /\$rF @ \$F! "\$h\$ j< ĤQE *\$G; Ĥ\$ \$d\$9\$ \$I 8= ' ; ĤM\$H\$9\$ k\$ 3\$H\$ rL \; 7
 \$F\$ \$ \$ ^\$9! #

OpenRTM-aist \$G3HD%\$5\$ l\$?; ĤM\$ b! ": #8eJQ99\$5\$ l\$ k2DG=ġ-\$,\$ "\$ j\$ ^\$9! #0 lI t\$N\$ b\$N\$ O RTM
 Specification \$K< Ĥj9~\$ ^\$1! "3HD%\$5\$1! "\$ "\$k\$ \$ \$O: ȳ= |\$5\$ l\$ k\$ +\$ b\$ 7\$ l\$ ^\$;\$ s! #

Bh6 > OpenRTM % /% i% 9% j% U% !% l% s% 9

6.1 % /% i% 9 RTM::RtcBase

RTComponent 4pDl% /% i% 9.

```
#include <RtcBase.h>
```

Public % a% =% C% I

- **RtcBase ()**
RtcBase(p. 99) % /% i% 9% 3% s% 9% H% i% /% ?.
- **RtcBase (CORBA::ORB_ptr orb, PortableServer::POA_ptr poa)**
RtcBase(p. 99) % /% i% 9% 3% s% 9% H% i% /% ?.
- **RtcBase (RtcManager *manager)**
RtcBase(p. 99) % /% i% 9% 3% s% 9% H% i% /% ?.
- virtual ~**RtcBase ()**
RtcBase(p. 99) % /% i% 9% C% 9% H% i% /% ?.
- virtual RtmRes **rtc_start** () throw (CORBA::SystemException, RTM::RTComponent::IllegalTransition)
[CORBA interface] % 3% s%]! <% M% s% H\$ N% "% /% F% #% V2 =
- virtual RtmRes **rtc_stop** () throw (CORBA::SystemException, RTM::RTComponent::IllegalTransition)
[CORBA interface] % 3% s%]! <% M% s% H\$ N H s% "% /% F% #% V2 =
- virtual RtmRes **rtc_reset** () throw (CORBA::SystemException, RTM::RTComponent::IllegalTransition)
[CORBA interface] % 3% s%]! <% M% s% H\$ N% j% ;% C% H
- virtual RtmRes **rtc_exit** () throw (CORBA::SystemException, RTM::RTComponent::IllegalTransition)
[CORBA interface] % 3% s%]! <% M% s% H\$ N% j% ;% C% H
- virtual RtmRes **rtc_kill** ()
[CORBA interface] % 3% s%]! <% M% s% H\$ N% /@)= *N ;

- virtual RtmRes **rtc_worker** ()
[CORBA interface] %a%\$%S% "%/%F%#%S%F%#N%a%=%C%I
- virtual RtmRes **rtc_ready_entry** ()
[CORBA interface] entry: ready() %a%=%C%I
- virtual RtmRes **rtc_ready_do** ()
[CORBA interface] do: ready() %a%=%C%I.
- virtual RtmRes **rtc_ready_exit** ()
[CORBA interface] exit: ready() %a%=%C%I.
- virtual RtmRes **rtc_active_entry** ()
[CORBA interface] entry: active() %a%=%C%I.
- virtual RtmRes **rtc_active_do** ()
[CORBA interface] do: active() %a%=%C%I.
- virtual RtmRes **rtc_active_exit** ()
[CORBA interface] exit: active() %a%=%C%I.
- virtual RtmRes **rtc_error_entry** ()
[CORBA interface] entry: error() %a%=%C%I
- virtual RtmRes **rtc_error_do** ()
[CORBA interface] do: error() %a%=%C%I.
- virtual RtmRes **rtc_error_exit** ()
[CORBA interface] exit: error() %a%=%C%I.
- virtual RtmRes **rtc_fatal_entry** ()
[CORBA interface] entry: fatal() %a%=%C%I
- virtual RtmRes **rtc_fatal_do** ()
[CORBA interface] do: fatal() %a%=%C%I.
- virtual RtmRes **rtc_fatal_exit** ()
[CORBA interface] exit: fatal() %a%=%C%I.
- virtual RtmRes **rtc_init_entry** ()
[CORBA interface] entry: init() %a%=%C%I
- virtual RtmRes **rtc_starting_entry** ()
[CORBA interface] entry: starting() %a%=%C%I
- virtual RtmRes **rtc_stopping_entry** ()
[CORBA interface] entry: stopping() %a%=%C%I

- virtual RtmRes **rtc_aborting_entry** ()
[CORBA interface] entry: *aborting()* %a%=%C%I
- virtual RtmRes **rtc_exiting_entry** ()
[CORBA interface] entry: *exiting()* %a%=%C%I
- virtual OutPort_ptr **rtc_state** ()
[CORBA interface] %"/%F%#%S%F%#%9%F! <%?%9\$N *OutPort* \$N<hF@
- virtual InPortList * **inports** ()
[CORBA interface] *InPortList* \$N<hF@
- virtual InPort_ptr **get_inport** (const char *name) throw (CORBA::SystemException, RTM::RTComponent::NoSuchName)
[CORBA interface] *InPort* \$N<hF@
- virtual OutPortList * **outports** ()
[CORBA interface] *OutPortList* \$N<hF@
- virtual OutPort_ptr **get_outport** (const char *name) throw (CORBA::SystemException, RTM::RTComponent::NoSuchName)
[CORBA interface] *OutPort* \$N<hF@
- virtual RTCServiceProfileList * **get_service_profiles** ()
[CORBA interface] *service profile list* \$N<hF@
- virtual RTCServiceProfile * **get_service_profile** (const char *name)
[CORBA interface] *service profile* \$N<hF@
- virtual RTCService_ptr **get_service** (const char *name)
[CORBA interface] *service* \$N<hF@
- virtual char * **instance_id** ()
[CORBA interface] *instance_id* \$N<hF@
- virtual char * **implementation_id** ()
[CORBA interface] *implementation_id* \$N<hF@
- virtual char * **description** ()
[CORBA interface] *description* \$N<hF@
- virtual char * **version** ()
[CORBA interface] *version* \$N<hF@
- virtual char * **maker** ()
[CORBA interface] *maker* \$N<hF@
- virtual char * **category** ()

[CORBA interface] category \$N<hF@

- virtual RTCProfile * **profile** ()
[CORBA interface] profile \$N<hF@
- virtual RtmRes **rtc_start_thread** ()
[CORBA interface] %"/%F%#%S%F%#%9%l%C%I\$N%9%?!<%H
- virtual RtmRes **rtc_suspend_thread** ()
[CORBA interface] %"/%F%#%S%F%#%9%l%C%I\$N%5%9%Z%S%I
- virtual RtmRes **rtc_stop_thread** ()
[CORBA interface] %"/%F%#%S%F%#%9%l%C%I\$N%9%H%C%W
- virtual RtmRes **rtc_set_parent** (RTCBase_ptr comp)
[CORBA interface] ?F%3%S%]!<%M%S%H\$r%;%C%H\$9\$k
- virtual RtmRes **rtc_add_component** (RTCBase_ptr comp)
[CORBA interface] ;R%3%S%]!<%M%S%H\$rDI2C\$9\$k
- virtual RtmRes **rtc_delete_component** (RTCBase_ptr comp)
[CORBA interface] ;R%3%S%]!<%M%S%H\$r:O=|9\$k
- virtual RtmRes **rtc_replace_component** (RTCBase_ptr comp1, RTCBase_ptr comp2)
[CORBA interface] ;R%3%S%]!<%M%S%H\$N=G=x\$rF~\$lBX\$(\$k
- virtual RtmRes **rtc_replace_component_by_name** (const char *name1, const char *name2)
[CORBA interface] ;R%3%S%]!<%M%S%H\$N=G=x\$rF~\$lBX\$(\$k
- virtual RTCBaseList * **rtc_components** ()
[CORBA interface] ;R%3%S%]!<%M%S%H\$r%j%9%H\$H\$7\$F<hF@9\$k!#
- virtual RTCBase_ptr **rtc_get_component** (const char *name)
[CORBA interface] ;R%3%S%]!<%M%S%H\$rL>A0\$r;XDj\$7\$F<hF@
- virtual RtmRes **rtc_attach_inport** (InPort_ptr in_port)
[CORBA interface] InPort \$r% "%?%C%A\$9\$k
- virtual RtmRes **rtc_attach_inport_by_name** (RTCBase_ptr comp, const char *name)
[CORBA interface] InPort \$r% "%?%C%A\$9\$k
- virtual RtmRes **rtc_detach_inport** (InPort_ptr in_port)
[CORBA interface] InPort \$r%G%?%C%A\$9\$k
- virtual RtmRes **rtc_detach_inport_by_name** (const char *name)

[CORBA interface] InPort \$r%C%?%C%A\$9\$k

- virtual RtmRes **rtc_attach_outport** (OutPort_ptr out_port)
[CORBA interface] OutPort \$r%"%?%C%A\$9\$k
- virtual RtmRes **rtc_attach_outport_by_name** (RTCTBase_ptr comp, const char *name)
[CORBA interface] OutPort \$r%"%?%C%A\$9\$k
- virtual RtmRes **rtc_detach_outport** (OutPort_ptr out_port)
[CORBA interface] OutPort \$r%C%?%C%A\$9\$k
- virtual RtmRes **rtc_detach_outport_by_name** (const char *name)
[CORBA interface] OutPort \$r%C%?%C%A\$9\$k
- virtual void **init_orb** (CORBA::ORB_ptr orb, PortableServer::POA_ptr poa)
ORB, POA \$N%]%\$%\$%?\$M?\$ (\$F=i4 |2=\$9\$k.
- virtual int **open** (void *args)
%3%\$%]! <%M%\$%H\$N% "%/%F%#%S%F%#%9%1%C I\$ r@8@.\$9\$k
- virtual int **svc** (void)
%3%\$%]! <%M%\$%H\$N% "%/%F%#%S%F%#%9%1%C I4X?t
- virtual int **close** (unsigned long flags)
*%3%\$%]! <%M%\$%H\$N% "%/%F%#%S%F%#%9%1%C I=*N;4X?t*
- virtual RTM::RTComponent::ComponentState **getState** ()
%3%\$%]! <%M%\$%H%9%F! <%H<hF@
- virtual void **initModuleProfile** (RtcModuleProfile prof)
ModuleProfile \$N=i4 |2=.
- virtual RtcModuleProfile & **getModuleProfile** ()
ModuleProfile \$N<hF@.
- virtual string **setComponentName** (int num)
%3%\$%]! <%M%\$%HL>\$r%;%C%H\$9\$k
- bool **registerInPort** (InPortBase &in_ch)
InPort \$NEFO?.
- bool **registerPort** (InPortBase &in_ch)
InPort \$NEFO?.
- bool **deleteInPort** (InPortBase &in_ch)
InPort \$NEFO?2r=|.

- **bool deletePort (InPortBase &in_ch)**
InPort \$NEFO?2r=|.
- **bool deleteInPortByName (const char *ch_name)**
InPort \$NEFO?2r=|.
- **void readAllInPorts ()**
A4\$F\$N InPort \$N%G! <%?<h\$ j9~\$_.
- **void finalizeInPorts ()**
*A4\$F\$N InPort \$N=*N;=HM}.*
- **bool registerOutPort (OutPortBase &out_ch)**
OutPort \$NEFO?.
- **bool registerPort (OutPortBase &out_ch)**
- **bool deleteOutPort (OutPortBase &out_ch)**
OutPort \$NEFO?.
- **bool deletePort (OutPortBase &out_ch)**
OutPort \$NEFO?.
- **bool deleteOutPortByName (const char *ch_name)**
OutPort \$NEFO?2r=|.
- **void writeAllOutPorts ()**
A4\$F\$N OutPort \$N%G! <%?=q\$ -=P\$ 7.
- **void finalizeOutPorts ()**
*A4\$F\$N OutPort \$N=*N;=HM}.*
- **bool registerService (RtcServiceBase &service, RtcServiceProfile &profile)**
- **void appendAlias (const char *alias)**
%3% s%]! <%M% s%HL>\$N alias \$rEFO?
- **void appendAlias (const std::string alias)**
%3% s%]! <%M% s%HL>\$N alias \$rEFO?
- **std::list< string > getAliases ()**
%3% s%]! <%M% s%HL>\$N alias \$r<hF@
- **void setNamingPolicy (NamingPolicy policy)**
- **NamingPolicy getNamingPolicy ()**
- **bool isLongNameEnable ()**
- **bool isAliasEnable ()**
- **void forceExit ()**
- **void finalize ()**

```
%3% s% ]! <%M% s%H$N= *N;=hM}
```

- bool **isThreadRunning** ()

Protected 7?

- typedef RtmRes(RtcBase::* **StateFunc**)()

```
% "%/%F% #s%F% #4X?t% ]% $% s% ?@k8@
```

- typedef list< **InPortBase** * >::iterator **InPorts_it**

```
InPort %j%9%H% $%F% !! <%?.
```

- typedef list< **OutPortBase** * >::iterator **OutPorts_it**

```
OutPort %j%9%H% $%F% !! <%?.
```

- enum **ThreadStates** { **UNKNOWN**, **RUNNING**, **SUSPEND**, **STOP** }

```
% "%/%F% #s%F% #9%1%C% D>uBV%U% i%09=B$BN
```

Protected %a%=%C%I

- RtmRes **_check_error** (RtmRes result)

```
% "%/%F% #s%F% # (%i! <%A% %C% /4X?t
```

- RtmRes **_nop** ()

```
% "%/%F% #s%F% #MQ%Q% _! <4X?t
```

- RtmRes **_rtc_initializing** ()

```
% "%/%F% #s%F% # rtc_init_entry <B9 T4X?t
```

- RtmRes **_rtc_ready_entry** ()

```
% "%/%F% #s%F% # rtc_ready_entry <B9 T4X?t
```

- RtmRes **_rtc_starting** ()

```
% "%/%F% #s%F% # rtc_starting_entry <B9 T4X?t
```

- RtmRes **_rtc_active_entry** ()

```
% "%/%F% #s%F% # rtc_active_entry <B9 T4X?t
```

- RtmRes **_rtc_stopping** ()

```
% "%/%F% #s%F% # rtc_stippoing_entry <B9 T4X?t
```

- RtmRes **_rtc_aborting** ()

```
% "%/%F% #s%F% # rtc_aborting_entry <B9 T4X?t
```

- RtmRes **_rtc_error_entry** ()

%"/%F%#%S%F%# *rtc_error_entry* <B9 T4X?t

- RtmRes **_rtc_fatal_entry** ()

%"/%F%#%S%F%# *rtc_fatal_entry* <B9 T4X?t

- RtmRes **_rtc_exiting** ()

%"/%F%#%S%F%# *rtc_exiting_entry* <B9 T4X?t

- RtmRes **_rtc_ready** ()

%"/%F%#%S%F%# *rtc_ready_do* <B9 T4X?t

- RtmRes **_rtc_active** ()

%"/%F%#%S%F%# *rtc_active_do* <B9 T4X?t

- RtmRes **_rtc_error** ()

%"/%F%#%S%F%# *rtc_error_do* <B9 T4X?t

- RtmRes **_rtc_fatal** ()

%"/%F%#%S%F%# *rtc_fatal_do* <B9 T4X?t

- RtmRes **_rtc_ready_exit** ()

%"/%F%#%S%F%# *rtc_ready_exit* <B9 T4X?t

- RtmRes **_rtc_active_exit** ()

%"/%F%#%S%F%# *rtc_active_exit* <B9 T4X?t

- RtmRes **_rtc_error_exit** ()

%"/%F%#%S%F%# *rtc_error_exit* <B9 T4X?t

- RtmRes **_rtc_fatal_exit** ()

%"/%F%#%S%F%# *rtc_fatal_exit* <B9 T4X?t

- void **init_state_func_table** ()

%"/%F%#%S%F%#4X?t%F! <%V%k\$N=i4 |2=

Protected JQ?t

- CORBA::ORB_ptr **m_pORB**

ORB %]%%\$%s%?JQ?t.

- PortableServer::POA_ptr **m_pPOA**

POA %]%%\$%s%?JQ?t.

- RtcManager * **m_pManager**

Manager %]%%\$%s%?JQ?t.

- **RtcBase_var m_Parent**
?F%3% s%]! <%M% s%H\$N% *%V%8% '%/%H% j%U% !%1% s%9
- **RtcBase_var m_MyObjRef**
<+J,<+?H\$N% *%V%8% '%/%H% j%U% !%1% s%9
- **ThreadState m_ThreadState**
% "%/%F% #S%F% #9%1% C% D>uBVJQ?t
- **ComponentStateMtx m_CurrentState**
% "%/%F% #S%F% #N\$N\$=:>uBVJQ?t
- **ComponentStateMtx m_NextState**
% "%/%F% #S%F% #N\$N\$!>uBVJQ?t
- **StateFunc _exit_func [11]**
% "%/%F% #S%F% #N \$N \$exit 4X?t%F! <%V%k
- **StateFunc _entry_func [11]**
% "%/%F% #S%F% #N \$N \$entry 4X?t%F! <%V%k
- **StateFunc _do_func [11]**
% "%/%F% #S%F% #N \$N \$do 4X?t%F! <%V%k
- **InPorts m_InPorts**
mutex IU\$ - *InPort* % j%9%H
- **OutPorts m_OutPorts**
mutex IU\$ - *OutPort* % j%9%H
- **TimedState m_TimedState**
% "%/%F% #S%F% #>uBVJQ?t
- **OutPortAny< TimedState > m_StatePort**
% "%/%F% #S%F% #>uBV *OutPort*
- **RtcModuleProfile m_Profile**
%3% s%]! <%M% s%H%W%N%U% !%\$%k
- **std::list< string > m_Alias**
%3% s%]! <%M% s%HL>\$N *alias*
- **RtcServiceAdmin m_ServiceAdmin**
%5! <%S%9% j%9%H
- **NamingPolicy m_NamingPolicy**
- **RtcMedLogbuf m_MedLogbuf**
%m% ,! <Cg2p%F%C%U% !

- RtcLogStream **rtcout**

%m% , ! <%9%H%j! <% '

6.1.1 @bL@

RTComponent 4pD1%/%i%9.

RTComponent 3 +H/< \$O? 7\$?\$K: n@ . \$ 9\$ k% 3% s%] ! <%M% s% H\$ N% /% i% 9\$ r\$ 3\$ N RtcBase \$ N % 5% V% /% i% 9\$ H\$ 7\$ FD j5 A 7\$ J\$ 1\$ 1\$ P\$ J\$ i\$ J\$ \$! # ? 7\$?\$K: n@ . \$ 9\$ k% 3% s%] ! <%M% s% H\$ K\$ *\$ \$\$ F ! "I , MW\$ J% "% /% F% # % S% F% # \$ N> BV\$ KBP1 ~\$ 9\$ k % a% =% C% I **rtc_active_do()**(p. 118) Ey\$ rE , 5 9 * ! <%P ! <% i% \$% I\$ 7\$ F ! "3F > BV\$ K\$ F9 T\$ &=hM }\$ r \$ = \$ N% a% =% C% I\$ K5 =P\$ 9\$ k ! # rtc_xxx_entry() , rtc_xxx_exit() \$ G\$ O\$ = \$ N> BV\$ K\$ F ~\$ k\$ H\$ - \$ H= P\$ k\$ H\$ - \$ K0 lE Y\$ @ \$ 1 \$ = \$ 1\$ i\$ N% a% =% C% I\$, < B T\$ 5\$ 1 ! "rtc_xxx_do() \$ G\$ O\$ = \$ N> BV\$ K\$ \$ \$ k4VC f ! "\$ = \$ N% a% =% C% I\$, < 4 | < B T\$ 5\$ 1\$ k ! # 3 F% a% =% C% I rtc_xxx_[entry|do|exit]() \$ G\$ QLa\$ jCM\$ K RTM_OK, RTM_ERR, RTM_WARNING, RTM_FATAL_ERR \$ N\$ \$\$:\$ 1\$ +\$ rJV\$ 9 ! # RTM_ERR \$ rJV\$ 9\$ H ERROR > BV\$ K ! "RTM_FATAL_ERR \$ rJV\$ 9\$ H FATAL_ERROR > BV\$ K 0 \9 T\$ 9\$ k ! # \$ = \$ NB > \$ N> BVA + 0 \ \$ K\$ D\$ \$\$ F\$ O% ^% K% e% "% k\$ r ; 2 3 #

? 7\$?\$K: n@ . \$ 9\$ k% 3% s%] ! <%M% s% H\$ N% /% i% 9\$ G\$ O ! " InPort , OutPort \$ H\$ 3\$ 1\$ K % P% \$% s% I\$ 5\$ 1 \$ k InPort , OutPort \$ N7 ?\$ KBP1 ~\$ 9\$ kJQ? t\$ rD j5 A 9\$ k ! # % 3% s%] ! <%M% s% H\$ N% /% i% 9\$ N% 3% s% 9% H% i % /% ?\$ G\$ O ! "\$ 3\$ 1\$ i\$ NJQ? t\$ r = i4 | 2 = ; R rMQ\$ \$\$ F = i4 | 2 = \$ 7 ! "% 3% s% 9% H% i% /% Fb\$ G registerInPort , registerOutPort \$ rMQ\$ \$\$ F \$ = \$ 1\$ > \$ 1 InPort , OutPort \$ H\$ 7\$ FEPO ?\$ 9\$ kI , MW\$, \$ "\$ k ! #

6.1.2 7 ?D j5A

6.1.2.1 typedef list<InPortBase*>::iterator RTM::RtcBase::InPorts_it [protected]

InPort % j% 9% H% \$% F% 1 ! <% ?.

6.1.2.2 typedef list<OutPortBase*>::iterator RTM::RtcBase::OutPorts_it [protected]

OutPort % j% 9% H% \$% F% 1 ! <% ?.

6.1.2.3 typedef RtmRes(RtcBase::* RTM::RtcBase::StateFunc)() [protected]

% "% /% F% # % S% F% # 4 X ? t%] % \$% s% ? @ k8 @

6.1.3 Ns5s7?

6.1.3.1 enum RTM::RtcBase::ThreadStates [protected]

%"/%F%#%S%F%#%9%1%C%I> BV%U%i%09=B\$BN

Ns5s7 ?\$NCM

-4pt **UNKNOWN**

RUNNING

SUSPEND

STOP

6.1.4 %3%s%9%H%i%/% ?\$H%C%9%H%i%/% ?

6.1.4.1 RTM::RtcBase::RtcBase ()

RtcBase(p. 99) %/%i%9%3%s%9%H%i%/% ?.

RTComponent %5! <%P%s%H< Bu\$N4pDl%/%i%9 **RtcBase**(p. 99) \$N%3%s%9%H%i%/% ?! # \$3\$N%3%
%9%H%i%/% ?\$r; MQ\$9\$k> Ig! "%f! <%6\$OORB \$X\$N%]%\$%s%?\$HPOA \$N%]%\$%s%? \$ "\$k\$ \$\$O! "% ^%M! <
%8% c\$X\$N%]%\$%s%?\$r8e\$C% ;%C%H\$9\$KI ,MW\$, \$ "\$k! #

6.1.4.2 RTM::RtcBase::RtcBase (CORBA::ORB_ptr orb,
PortableServer::POA_ptr poa)

RtcBase(p. 99) %/%i%9%3%s%9%H%i%/% ?.

RTComponent %5! <%P%s%H< Bu\$N4pDl%/%i%9 **RtcBase**(p. 99) \$N%3%s%9%H%i%/% ?! #

ORB \$X\$N%]%\$%s%?\$HPOA \$X\$N%]%\$%s%?\$, \$9\$G\$KF @ \$i\$ l\$F\$ \$\$k> Ig\$K\$O! "\$3\$N %3%s%9%H%i
%/% ?\$r; MQ\$9\$k\$3\$H\$,=FMh\$k! #

0z?t:

-4pt **orb** ORB \$X\$N%]%\$%s%?

poa POA \$X\$N%]%\$%s%?

6.1.4.3 RTM::RtcBase::RtcBase (RtcManager * manager)

RtcBase(p. 99) %/%i%9%3%s%9%H%i%/% ?.

DL> \$O% ^%M! <%8% c\$ rDL\$ 7\$F%3%\$%]! <%M% s%H%/%i%9\$r%\$%s%9%?\$s%92=\$7! " \$3\$N%3%s%9%H%i%/% ?
\$r; MQ\$9\$k\$3\$H\$r?d> \$9\$k! #

0z?t:

-4pt **manager** %3%s%]! <%M% s%H% ^%M! <%8% c **RtcManager**(p. 157) \$X\$N%]%\$%s%?

6.1.4.4 virtual RTM::RtcBase::~~RtcBase () [virtual]

RtcBase(p. 99) %/%i%9%G%9%H%i%/%?.

6.1.5 4X?t

6.1.5.1 RtmRes RTM::RtcBase::_check_error (RtmRes *result*) [protected]

%"/%F%#%S%F%#% (%i! <%A% %C%/4X?t

6.1.5.2 RtmRes RTM::RtcBase::_nop () [inline, protected]

%"/%F%#%S%F%#MQ%Q%_! <4X?t

6.1.5.3 RtmRes RTM::RtcBase::_rtc_aborting () [protected]

%"/%F%#%S%F%# rtc_aborting_entry < BT4X?t

6.1.5.4 RtmRes RTM::RtcBase::_rtc_active () [protected]

%"/%F%#%S%F%# rtc_active_do < BT4X?t

6.1.5.5 RtmRes RTM::RtcBase::_rtc_active_entry () [protected]

%"/%F%#%S%F%# rtc_active_entry < BT4X?t

6.1.5.6 RtmRes RTM::RtcBase::_rtc_active_exit () [protected]

%"/%F%#%S%F%# rtc_active_exit < BT4X?t

6.1.5.7 RtmRes RTM::RtcBase::_rtc_error () [protected]

%"/%F%#%S%F%# rtc_error_do < BT4X?t

6.1.5.8 RtmRes RTM::RtcBase::_rtc_error_entry () [protected]

%"/%F%#%S%F%# rtc_error_entry < BT4X?t

6.1.5.9 RtmRes RTM::RtcBase::_rtc_error_exit () [protected]

```
%"/%F%#%S%F%#rtc_error_exit < BT4X?t
```

6.1.5.10 RtmRes RTM::RtcBase::_rtc_exiting () [protected]

```
%"/%F%#%S%F%#rtc_exiting_entry < BT4X?t
```

6.1.5.11 RtmRes RTM::RtcBase::_rtc_fatal () [protected]

```
%"/%F%#%S%F%#rtc_fatal_do < BT4X?t
```

6.1.5.12 RtmRes RTM::RtcBase::_rtc_fatal_entry () [protected]

```
%"/%F%#%S%F%#rtc_fatal_entry < BT4X?t
```

6.1.5.13 RtmRes RTM::RtcBase::_rtc_fatal_exit () [protected]

```
%"/%F%#%S%F%#rtc_fatal_exit < BT4X?t
```

6.1.5.14 RtmRes RTM::RtcBase::_rtc_initializing () [protected]

```
%"/%F%#%S%F%#rtc_init_entry < BT4X?t
```

6.1.5.15 RtmRes RTM::RtcBase::_rtc_ready () [protected]

```
%"/%F%#%S%F%#rtc_ready_do < BT4X?t
```

6.1.5.16 RtmRes RTM::RtcBase::_rtc_ready_entry () [protected]

```
%"/%F%#%S%F%#rtc_ready_entry < BT4X?t
```

6.1.5.17 RtmRes RTM::RtcBase::_rtc_ready_exit () [protected]

```
%"/%F%#%S%F%#rtc_ready_exit < BT4X?t
```

6.1.5.18 RtmRes RTM::RtcBase::_rtc_starting () [protected]

```
%"/%F%#%S%F%#rtc_starting_entry < BT4X?t
```

6.1.5.19 RtmRes RTM::RtcBase::_rtc_stopping () [protected]

```
%"/%F%#%S%F%#rtc_stopping_entry < BT4X?t
```

6.1.5.20 void RTM::RtcBase::appendAlias (const std::string *alias*)

```
%3%$%!<%M%$%HL>$N alias $rEPO?
```

```
%3%$%!<%M%$%HL>$N alias $rEPO?$9$K!#EPO?$5$1$? alias $O%M!<_%$%0%5!<%P $KEPO?$5$1$K!#L>A0$NIU$1J}$O %3%$%F%-%9%$%N6 BZ$j$r"/"! " id $H kind $N6 BZ$j$r"/" $H$9$K!#3%$%F%-%9%$ Manipulator $N2<$K< #,< ?H$r MyManipulator0 $H$7$F bind $7$?$> Bg$K$O!"/Manipualtor/MyManipulator0|rtc" $rJ8; B$H$7$FEO$9!#^%M!<%8$c$K$h$jE,@Z$J%?%$_%$%0$G%M!<_%$%0%5!<%P$KEPO?$5$1$K!#
```

```
0z?t:
```

```
-4pt alias %3%$%!<%M%$%HL>$N alias
```

6.1.5.21 void RTM::RtcBase::appendAlias (const char * *alias*)

```
%3%$%!<%M%$%HL>$N alias $rEPO?
```

```
%3%$%!<%M%$%HL>$N alias $rEPO?$9$K!#EPO?$5$1$? alias $O%M!<_%$%0%5!<%P $KEPO?$5$1$K!#L>A0$NIU$1J}$O %3%$%F%-%9%$%N6 BZ$j$r"/"! " id $H kind $N6 BZ$j$r"/" $H$9$K!#3%$%F%-%9%$ Manipulator $N2<$K< #,< ?H$r MyManipulator0 $H$7$F bind $7$?$> Bg$K$O!"/Manipualtor/MyManipulator0|rtc" $rJ8; B$H$7$FEO$9!#^%M!<%8$c$K$h$jE,@Z$J%?%$_%$%0$G%M!<_%$%0%5!<%P$KEPO?$5$1$K!#
```

```
0z?t:
```

```
-4pt alias %3%$%!<%M%$%HL>$N alias
```

6.1.5.22 virtual char* RTM::RtcBase::category () [virtual]

```
[CORBA interface] category $N< B@
```

```
%3%$%!<%M%$%H$N%+%F%4%j$r< B@9$K!#
```

6.1.5.23 virtual int RTM::RtcBase::close (unsigned long *flags*) [virtual]

```
%3%$%!<%M%$%H$N%"/%F%#%S%F%#%9%1%$%I=*N;4X?t
```

```
%3%$%!<%M%$%H$N$bi t%"/%F%#%S%F%#%9%1%$%I=*N;; $K8F$P$1$K!# %3%$%!<%M%$%H%*V%8%'%/%H$NHs%"/%F%#%V2=! "%^%M!<%8$c$X$NDICN$r9T$&!# $3$1$O ACE_Task %5!<%S%9%/%i%9$a%=%C%I$N%*!<%P!<%i%$%I!#
```

6.1.5.24 bool RTM::RtcBase::deleteInPort (InPortBase & *in_ch*)

```

InPort $NEFO?2r=|.
EFO?$5$1$F$ $$k InPort $NEFO?$r2r=|$9$k!#

0 z?t:
-4pt      in_ch InPort object of InPort<T>

```

6.1.5.25 bool RTM::RtcBase::deleteInPortByName (const char * *ch_name*)

```

InPort $NEFO?2r=|.
EFO?$5$1$F$ $$k InPort $NEFO?$rL>A0$r; 8j$7$F2r=|$9$k!#

0 z?t:
-4pt      ch_name InPort L>

```

6.1.5.26 bool RTM::RtcBase::deleteOutPort (OutPortBase & *out_ch*)

```

OutPort $NEFO?.
OutPort $r%3% s% ]! <%M% s%H$KEFO?$9$k! #EFO?$5$1$?OutPort $O3 0It$+ $i 8+$ ($k$h$ &$K$J$k!#

0 z?t:
-4pt      out_ch OutPort object of OutPort<T>

```

6.1.5.27 bool RTM::RtcBase::deleteOutPortByName (const char * *ch_name*)

```

OutPort $NEFO?2r=|.
EFO?$5$1$F$ $$k OutPort $NEFO?$rL>A0$r; 8j$7$F2r=|$9$k!#

0 z?t:
-4pt      ch_name OutPort L>

```

6.1.5.28 bool RTM::RtcBase::deletePort (OutPortBase & *out_ch*) [inline]

```

OutPort $NEFO?.
OutPort $r%3% s% ]! <%M% s%H$KEFO?$9$k! #EFO?$5$1$?OutPort $O3 0It$+ $i 8+$ ($k$h$ &$K$J$k!#

0 z?t:
-4pt      out_ch OutPort object of OutPort<T>

```

6.1.5.29 bool RTM::RtcBase::deletePort (InPortBase & *in_ch*) [inline]

InPort \$NEPO?2r= |.

EPO? \$5\$ l\$F\$ \$\$k InPort \$NEPO? \$r2r= |\$9\$ k! #

0 z? t:

-4pt *in_ch* InPort object of InPort<T>

6.1.5.30 virtual char* RTM::RtcBase::description () [virtual]

[CORBA interface] description \$N< E@

%3% s%]! <%M% s%H\$N3 5MW@hL @ \$ r< E @ \$ 9\$ k! #

6.1.5.31 void RTM::RtcBase::finalize ()

%3% s%]! <%M% s%H\$N= *N;=hM}

1.OutPort \$N= *N;=hM}+deactivate! "2.InPort \$N= *N;=hM}+deactivate! " 3. % "%/%F% # %S%F% # \$N
Dd; _ "4. %3% s%]! <%M% s%H\$N deactivate 5.

6.1.5.32 void RTM::RtcBase::finalizeInPorts ()

A4\$F\$N InPort \$N= *N;=hM}.

A4\$F\$N InPort \$KBP\$ 7\$F% *%V%8% '%/%H\$N deactivate() \$r9T\$ &! #

6.1.5.33 void RTM::RtcBase::finalizeOutPorts ()

A4\$F\$N OutPort \$N= *N;=hM}.

A4\$F\$N OutPort \$KBP\$ 7\$F3F% 5%V%9%/%i% \$%P\$ r@ ZCG\$ 7! "% *%V%8% '%/%H\$N deactivate() \$r9T\$ &! #

6.1.5.34 void RTM::RtcBase::forceExit ()

6.1.5.35 virtual InPort_ptr RTM::RtcBase::get_inport (const char * *name*) throw (CORBA::SystemException, RTM::RTComponent::NoSuchName) [virtual]

[CORBA interface] InPort \$N< E@

InPort \$N% *%V%8% '%/%H% j%U% !%l% s%9\$ r< E @ \$ 9\$ k! #

0 z? t:

-4pt *name* InPort L>

6.1.5.36 `virtual OutPort_ptr RTM::RtcBase::get_outport (const char * name) throw (CORBA::SystemException, RTM::RTComponent::NoSuchName) [virtual]`

[CORBA interface] OutPort \$N<   

OutPort \$N% *%V%8% '%/%H% j%U% !%1% s%9\$ r<   \$ 9\$k! #

0z?  

-4pt *name* OutPort L>

6.1.5.37 `virtual RTCService_ptr RTM::RtcBase::get_service (const char * name) [virtual]`

[CORBA interface] service \$N<   

%3% s%]! <%M% s%H\$N%5! <%S% 9\$ r<   \$ 9\$k! #

6.1.5.38 `virtual RTCServiceProfile* RTM::RtcBase::get_service_profile (const char * name) [virtual]`

[CORBA interface] service profile \$N<   

%3% s%]! <%M% s%H\$N%5! <%S% 9%W% m%U% !%\$%k\$ r<   \$ 9\$k! #

6.1.5.39 `virtual RTCServiceProfileList* RTM::RtcBase::get_service_profiles () [virtual]`

[CORBA interface] service profile list \$N<   

%3% s%]! <%M% s%H\$N%5! <%S% 9%W% m%U% !%\$%k% j%9%H\$ r<   \$ 9\$k! #

6.1.5.40 `std::list<string> RTM::RtcBase::getAliases ()`

%3% s%]! <%M% s%HL>\$N alias \$ r<   

EPO ?\$5\$ 1\$F\$ \$\$k%3% s%]! <%M% s%HL>\$N alias \$ r<   \$ 9\$k! #

6.1.5.41 `virtual RtcModuleProfile& RTM::RtcBase::getModuleProfile () [inline, virtual]`

ModuleProfile \$N<   

ModuleProfile \$ r<   \$ 9\$k! #

6.1.5.42 NamingPolicy RTM::RtcBase::getNamingPolicy ()**6.1.5.43 virtual RTM::RTComponent::ComponentState
RTM::RtcBase::getState () [virtual]**

%3%\$%]! <%M%\$%H%9%F! <%H< H@

%3%\$%]! <%M%\$%H\$NB=:_ \$N> BV\$ r< H@ \$9\$ k! #

6.1.5.44 virtual char* RTM::RtcBase::implementation_id () [virtual]

[CORBA interface] implementation_id \$N< H@

%3%\$%]! <%M%\$%H\$N%\$%\$%W%j%a%\$%F! <%7%g%\$ID \$r< H@ \$9\$ k! #

**6.1.5.45 virtual void RTM::RtcBase::init_orb (CORBA::ORB_ptr orb,
PortableServer::POA_ptr poa) [virtual]**

ORB, POA \$N%]%\$%\$%?\$ \$m?\$ (\$F=i4 |2=\$9\$ k.

%3%\$%]! <%M%\$%H\$KORB \$HPOA \$N%]%\$%\$%?\$ \$m?\$ (\$F%3%\$%]! <%M%\$%H\$r=i4 |2=\$9\$ k! #

0z?t:

-4pt **orb** ORB \$X\$N%]%\$%\$%?

poa POA \$X\$N%]%\$%\$%?

6.1.5.46 void RTM::RtcBase::init_state_func_table () [protected]

% "%/%F%#%S%F%#4X?t%F! <%V%k\$N=i4 |2=

**6.1.5.47 virtual void RTM::RtcBase::initModuleProfile (RtcModuleProfile
prof) [virtual]**

ModuleProfile \$N=i4 |2=

RtcModuleProfile %/%i%9\$N%\$%\$%9%?\$%\$9\$rEQ\$7\$F! "%3%\$%]! <%M%\$%H\$N %W%m%U% !%\$%k\$r=i4 |2=\$9\$ k! #

0z?t:

-4pt **RtcModuleProfSpec** %b%8%e! <%k%W%m%U% !%\$%k

6.1.5.48 virtual InPortList* RTM::RtcBase::inports () [virtual]

[CORBA interface] InPortList \$N< H@

InPort \$N% *%V%8% '%/%H%j%U% !%1%\$%9\$N%j%9%H\$r< H@ \$9\$ k! #

6.1.5.49 virtual char* RTM::RtcBase::instance_id () [virtual]

[CORBA interface] instance_id \$N<   
 %3%\$%!<%M%\$H\$N%\$%\$%9%?%\$%9ID \$r<   \$9\$k!#

6.1.5.50 bool RTM::RtcBase::isAliasEnable ()**6.1.5.51 bool RTM::RtcBase::isLongNameEnable ()****6.1.5.52 bool RTM::RtcBase::isThreadRunning ()****6.1.5.53 virtual char* RTM::RtcBase::maker () [virtual]**

[CORBA interface] maker \$N<   
 %3%\$%!<%M%\$H\$N:n .< \$r<   \$9\$k!#

6.1.5.54 virtual int RTM::RtcBase::open (void * args) [virtual]

%3%\$%!<%M%\$H\$N%"%/%F%#%S%F%#%9%1%C%I\$r 8 .\$9\$k
 %3%\$%!<%M%\$H\$NfbI t%"%/%F%#%S%F%#%9%1%C%I\$r 8 .\$75  '0\$9\$k!# \$3\$1\$O ACE_Task %5!<
 %\$%9%/%i%9%a%=%C%I\$N%*!<%P!<%i%\$%I!#
 0z?t:
 -4pt **args** DL> \$OO

6.1.5.55 virtual OutPortList* RTM::RtcBase::outports () [virtual]

[CORBA interface] OutPortList \$N<   
 OutPort \$N%*%V%8%'%/%H%j%U%!%1%\$%9\$N%j%9%H\$r<   \$9\$k!#

6.1.5.56 virtual RTCProfile* RTM::RtcBase::profile () [virtual]

[CORBA interface] profile \$N<   
 %3%\$%!<%M%\$H\$N%W%r U%!%\$%k\$r<   \$9\$k!#

6.1.5.57 void RTM::RtcBase::readAllInPorts ()

A4\$F\$N InPort \$N%G!<%?<  j9~\$_.
 A4\$F\$N InPort \$KBP\$7\$F InPort::read() \$r< BT!#M=\$a%P%\$%\$%I\$5\$1\$?JQ?t\$K :G?7\$NCM\$,BeF~
 \$5\$1\$k!#JQ?t\$K%P%\$%\$%I\$5\$1\$F\$ \$\$J\$ \$InPort \$G\$Q? \$b5 \$3\$i\$J\$ \$!#

6.1.5.58 bool RTM::RtcBase::registerInPort (InPortBase & *in_ch*)

InPort \$NEPO?.

InPort \$r%3%s%]! <%M% s%H\$KEFO ?\$9\$k! #EFO ?\$5\$1\$?InPort \$O3OI t\$+\$i 8+\$ (\$k\$h\$&\$K\$J\$k! #

0z?t:

-4pt ***in_ch*** InPort object of InPort<T>

6.1.5.59 bool RTM::RtcBase::registerOutPort (OutPortBase & *out_ch*)

OutPort \$NEPO?.

OutPort \$r%3%s%]! <%M% s%H\$KEFO ?\$9\$k! #EFO ?\$5\$1\$?OutPort \$O3OI t\$+\$i 8+\$ (\$k\$h\$&\$K\$J\$k! #

0z?t:

-4pt ***out_ch*** OutPort object of OutPort<T>

6.1.5.60 bool RTM::RtcBase::registerPort (OutPortBase & *out_ch*) [inline]**6.1.5.61 bool RTM::RtcBase::registerPort (InPortBase & *in_ch*) [inline]**

InPort \$NEPO?.

InPort \$r%3%s%]! <%M% s%H\$KEFO ?\$9\$k! #EFO ?\$5\$1\$?InPort \$O3OI t\$+\$i 8+\$ (\$k\$h\$&\$K\$J\$k! #

0z?t:

-4pt ***in_ch*** InPort object of InPort<T>

**6.1.5.62 bool RTM::RtcBase::registerService (RtcServiceBase & *service*,
RtcServiceProfile & *profile*)****6.1.5.63 virtual RtmRes RTM::RtcBase::rtc_aborting_entry () [inline,
virtual]**

[CORBA interface] entry: aborting() %a%=%C%I

ABORTING > BV\$X?JF~\$9\$k\$H\$~\$K l EY\$@ \$18F\$S=P\$5\$1\$k%a%=%C%I! # % (%i! <\$, \$J\$1\$1\$P
READY > BV\$XA+0\\$9\$k! # La\$ jCM\$, RTM_ERR \$G ERROR > BV\$X! " RTM_FATALERR \$G
FATAL_ERROR > BV\$XA+0\\$9\$k! #

6.1.5.64 virtual RtmRes RTM::RtcBase::rtc_active_do () [inline, virtual]

[CORBA interface] do: active() %a%=%C%I

ACTIVE > BV\$K5 \$k4V< 4|< BT\$5\$1\$k%a%=%C%I! #

6.1.5.65 virtual RtmRes RTM::RtcBase::rtc_active_entry () [inline, virtual]

[CORBA interface] entry: active() %a%=%C%L

ACTIVE > BV\$K?JF~\$9\$k\$H\$-\$K1 EY\$Q\$1< BT\$5\$1\$k%a%=%C%L! #

6.1.5.66 virtual RtmRes RTM::RtcBase::rtc_active_exit () [inline, virtual]

[CORBA interface] exit: active() %a%=%C%L

ACTIVE > BV\$+\$i=F\$k\$H\$-\$K1 EY\$Q\$1< BT\$5\$1\$k%a%=%C%L! #

6.1.5.67 virtual RtmRes RTM::RtcBase::rtc_add_component (RTCBase_ptr comp) [inline, virtual]

[CORBA interface] ; R3%\$%!<%M%\$H\$rDI2C\$9\$k

; R3%\$%!<%M%\$H\$N%*%V%8%'/%H%j%U!%1%\$9\$r%;%C%\$9\$k! # C1BN%3%\$%!<%M%\$H\$K\$*\$\$\$F\$3\$N%a%=%C%I\$OL\$; MQ\$N\$?\$a! "RTM_ERR \$rJV\$9! #

6.1.5.68 virtual RtmRes RTM::RtcBase::rtc_attach_inport (InPort_ptr in_port) [inline, virtual]

[CORBA interface] InPort \$r% "%?%C%A\$9\$k

; R3%\$%!<%M%\$H\$NInPort \$r\$3\$N%3%\$%!<%M%\$H\$NInPort \$K% "%?%C%A\$9\$k! # C1BN%3%\$%!<%M%\$H\$K\$*\$\$\$F\$Q< F,< ?H%*%V%8%'/%H%j%U!%1%\$9\$rJV\$9! #

6.1.5.69 virtual RtmRes RTM::RtcBase::rtc_attach_inport_by_name (RTCBase_ptr comp, const char * name) [inline, virtual]

[CORBA interface] InPort \$r% "%?%C%A\$9\$k

; R3%\$%!<%M%\$H\$NInPort L>\$r; Øj\$7\$F%3%\$%!<%M%\$H\$NInPort \$K% "%?%C%A\$9\$k! # C1BN%3%\$%!<%M%\$H\$K\$*\$\$\$F\$Q< F,< ?H%*%V%8%'/%H%j%U!%1%\$9\$rJV\$9! #

6.1.5.70 virtual RtmRes RTM::RtcBase::rtc_attach_outport (OutPort_ptr out_port) [inline, virtual]

[CORBA interface] OutPort \$r% "%?%C%A\$9\$k

; R3%\$%!<%M%\$H\$NOutPort \$r\$3\$N%3%\$%!<%M%\$H\$NOutPort \$K% "%?%C%A\$9\$k! # C1BN%3%\$%!<%M%\$H\$K\$*\$\$\$F\$Q< F,< ?H%*%V%8%'/%H%j%U!%1%\$9\$rJV\$9! #

6.1.5.71 virtual RtmRes RTM::RtcBase::rtc_attach_outport_by_name (RTCBase_ptr comp, const char * name) [inline, virtual]

[CORBA interface] OutPort \$r% "% ?%C%A\$ 9\$ k

; R3% s%]! <%M% s%H\$NOutPort L>\$r; Øj\$ 7\$F% 3% s%]! <%M% s%H\$NInPort \$K% "% ?%C%A \$ 9\$ k! # C1BN %3% s%]! <%M% s%H\$K\$ *\$ \$\$F\$O< F,< ?H% *%V% Ø% '%/%H% j%U% !%1% s% 9\$ rJV\$ 9! #

6.1.5.72 virtual RTCBaseList* RTM::RtcBase::rtc_components () [inline, virtual]

[CORBA interface] ; R3% s%]! <%M% s%H\$r% j%9%H\$H\$ 7\$F< H@ \$ 9\$ k! #

; R3% s%]! <%M% s%H\$N% j%9%H\$ r< H@ \$ 9\$ k! # C1BN% 3% s%]! <%M% s%H\$K\$ *\$ \$\$F\$O< F,< ?H% *%V% Ø% '%/%H% j%U% !%1% s% 9\$ rJV\$ 9! #

6.1.5.73 virtual RtmRes RTM::RtcBase::rtc_delete_component (RTCBase_ptr comp) [inline, virtual]

[CORBA interface] ; R3% s%]! <%M% s%H\$r: o= |\$ 9\$ k

; R3% s%]! <%M% s%H\$N% *%V% Ø% '%/%H% j%U% !%1% s% 9\$ r: o= |\$ 9\$ k! # C1BN% 3% s%]! <%M% s%H\$K\$ *\$ \$\$F\$ 3 \$N% a% =%C% I\$OL\$; MQ\$N\$?\$a! "RTM_ERR \$ rJV\$ 9! #

6.1.5.74 virtual RtmRes RTM::RtcBase::rtc_detatch_inport (InPort_ptr in_port) [inline, virtual]

[CORBA interface] InPort \$r%G% "%C%A\$ 9\$ k

; R3% s%]! <%M% s%H\$NInPort \$r\$ 3\$N% 3% s%]! <%M% s%H\$NInPort \$ +\$ i%G% "%C%A\$ 9\$ k! # C1BN% 3% s%]! <%M% s%H\$K\$ *\$ \$\$F\$O RTM_ERR \$ rJV\$ 9! #

6.1.5.75 virtual RtmRes RTM::RtcBase::rtc_detatch_inport_by_name (const char * name) [inline, virtual]

[CORBA interface] InPort \$r%G% "%C%A\$ 9\$ k

; R3% s%]! <%M% s%H\$NInPort \$rL>A0\$ r; Øj\$ 7\$F\$ 3\$N% 3% s%]! <%M% s%H\$NInPort \$ +\$ i %G% "%C%A\$ 9\$ k! # C1BN% 3% s%]! <%M% s%H\$K\$ *\$ \$\$F\$O RTM_ERR \$ rJV\$ 9! #

6.1.5.76 virtual RtmRes RTM::RtcBase::rtc_detatch_outport (OutPort_ptr out_port) [inline, virtual]

[CORBA interface] OutPort \$r%G% "%C%A\$ 9\$ k

; R3% s%]! <%M% s%H\$NOutPort \$r\$ 3\$N% 3% s%]! <%M% s%H\$NOutPort \$ +\$ i%G% "%C%A\$ 9\$ k! # C1BN% 3% s%]! <%M% s%H\$K\$ *\$ \$\$F\$O RTM_ERR \$ rJV\$ 9! #

6.1.5.77 virtual RtmRes RTM::RtcBase::rtc_detatch_outport_by_name (const char * *name*) [inline, virtual]

[CORBA interface] OutPort \$r%C%?%C%A\$9\$k

```
; R3% s% ]! <%M% s%H$NOutPort $rL>A0$r; Nj$ 7$F$ 3$N% 3% s% ]! <%M% s%H$NOutPort $+$i %C%?%C
%A$ 9$k! # C1BN% 3% s% ]! <%M% s%H$K$ *$ $$F$O RTM_ERR $rJV$ 9! #
```

6.1.5.78 virtual RtmRes RTM::RtcBase::rtc_error_do () [inline, virtual]

[CORBA interface] do: error() %a%=%C%I

```
ERROR > BV$K$ $$k4V< 4|< BT$ 5$ 1$k% a%=%C%I! #
```

6.1.5.79 virtual RtmRes RTM::RtcBase::rtc_error_entry () [inline, virtual]

[CORBA interface] entry: error() %a%=%C%I

```
ERROR > BV$X? JF ~$ 9$k$H$ -$K1 EY$ @ $ 18F$ S=P$ 5$ 1$k% a%=%C%I! #
```

6.1.5.80 virtual RtmRes RTM::RtcBase::rtc_error_exit () [inline, virtual]

[CORBA interface] exit: error() %a%=%C%I

```
ERROR > BV$+$i=P$ k$H$ -$K1 EY$ @ $ 1< BT$ 5$ 1$k% a%=%C%I! #
```

6.1.5.81 virtual RtmRes RTM::RtcBase::rtc_exit () throw (CORBA::SystemException, RTM::RTComponent::IllegalTransition) [virtual]

[CORBA interface] %3% s%]! <%M% s%H\$N% j% ;%C%H

```
%3% s% ]! <%M% s%H$N> BV$r EXITING $KA+0 \ $ 5$ ;$k! # EXITING > BV$KA+0 \ $ 7$ ?% 3% s% ]! <%M
% s%H$CF sEY$HI |5 $ 9$k$ 3$H$ J$ / = *N ;$ 9$k! #
```

6.1.5.82 virtual RtmRes RTM::RtcBase::rtc_exiting_entry () [inline, virtual]

[CORBA interface] entry: exiting() %a%=%C%I

```
EXITING > BV$X? JF ~$ 9$k$H$ -$K1 EY$ @ $ 18F$ S=P$ 5$ 1$k% a%=%C%I! #% (%i! <$ , $ J$ 1$ 1$ PREADY
> BV$XA+0 \ $ 9$k! # La$ jCM$ , RTM_ERR $G ERROR > BV$X! " RTM_FATALERR $G FATAL-
ERROR > BV$XA+0 \ $ 9$k! #
```

6.1.5.83 virtual RtmRes RTM::RtcBase::rtc_fatal_do () [inline, virtual]

[CORBA interface] do: fatal() %a%=%C%I

FATAL_ERROR > BV\$K\$ \$\$k4V< 4 |< BT\$ 5\$ l\$k%a%=%C%I! #

6.1.5.84 virtual RtmRes RTM::RtcBase::rtc_fatal_entry () [inline, virtual]

[CORBA interface] entry: fatal() %a%=%C%I

FATAL_ERROR > BV\$X?JF~\$9\$k\$H\$-\$K1 EY\$ @ \$ 18F\$S=P\$ 5\$ l\$k%a%=%C%I! #

6.1.5.85 virtual RtmRes RTM::RtcBase::rtc_fatal_exit () [inline, virtual]

[CORBA interface] exit: fatal() %a%=%C%I

READY > BV\$+\$i=P\$k\$H\$-\$K1 EY\$ @ \$ 1< BT\$ 5\$ l\$k%a%=%C%I! #

6.1.5.86 virtual RTCBase_ptr RTM::RtcBase::rtc_get_component (const char * name) [inline, virtual]

[CORBA interface] ; R3%s%]! <%M% s%H\$rL>A0\$r; Xj\$ 7\$F< H@

; R3%s%]! <%M% s%H\$rL>A0\$r; Xj\$ 7\$F\$=\$N% *%V%8% '%/%H% j%U% !%l%s%9\$r< H@ \$ 9\$k! # C1BN%3% s%]! <%M% s%H\$K\$ *\$ \$\$F\$Q< J,< ?H% *%V%8% '%/%H% j%U% !%l%s%9\$rJV\$ 9! #

6.1.5.87 virtual RtmRes RTM::RtcBase::rtc_init_entry () [inline, virtual]

[CORBA interface] entry: init() %a%=%C%I

INITIALIZING > BV\$X?JF~\$9\$k\$H\$-\$K1 EY\$ @ \$ 18F\$S=P\$ 5\$ l\$k%a%=%C%I! # % (%i! <\$,\$J\$ 1\$ 1\$P
READY > BV\$XA+0\\$9\$k! # La\$ jCM\$, RTM_ERR \$G ERROR > BV\$X! " RTM_FATALERR \$G
FATAL_ERROR > BV\$XA+0\\$9\$k! #

6.1.5.88 virtual RtmRes RTM::RtcBase::rtc_kill () [virtual]

[CORBA interface] %3%s%]! <%M% s%H\$N6 @)=*N;

FATAL_ERROR > BV\$N%3%s%]! <%M% s%H\$r EXITING \$KA+0\\$5\$;\$k! #EXITING > BV\$KA+0\
\$7\$?%3%s%]! <%M% s%H\$CF sEY\$HI |5 \$9\$k\$3\$H\$J\$ /=*N;\$9\$k! #

6.1.5.89 virtual RtmRes RTM::RtcBase::rtc_ready_do () [inline, virtual]

[CORBA interface] do: ready() %a%=%C%I

READY > BV\$K\$ \$\$k4V< 4 |< BT\$ 5\$ l\$k%a%=%C%I! #

6.1.5.90 virtual RtmRes RTM::RtcBase::rtc_ready_entry () [inline, virtual]

[CORBA interface] entry: ready() %a%=%C%I

READY > BV\$X?JF~\$9\$k\$H\$-\$K1 EY\$@S18F\$S=P\$5\$1\$k%a%=%C%I! #

6.1.5.91 virtual RtmRes RTM::RtcBase::rtc_ready_exit () [inline, virtual]

[CORBA interface] exit: ready() %a%=%C%I

READY > BV\$+\$i=P\$k\$H\$-\$K1 EY\$@S1< BT\$5\$1\$k%a%=%C%I! #

6.1.5.92 virtual RtmRes RTM::RtcBase::rtc_replace_component (RTCBase_ptr comp1, RTCBase_ptr comp2) [inline, virtual]

[CORBA interface] ; R3% s%]! <%M% s%H\$N=g=x\$ rF~\$ lBX\$ (\$k

2 \$D\$N; R3% s%]! <%M% s%H\$r% *%V%8% '%/%H% j%U% !%1% s%9\$ r; MQ\$7\$F=g=x\$ rF~\$ lBX\$ (\$k! # C1BN%3 % s%]! <%M% s%H\$K\$ *\$ \$F\$3\$N% a%=%C% I\$CL\$; MQ\$N\$?\$a! "RTM_ERR \$rJV\$9! #

6.1.5.93 virtual RtmRes RTM::RtcBase::rtc_replace_component_by_name (const char * name1, const char * name2) [inline, virtual]

[CORBA interface] ; R3% s%]! <%M% s%H\$N=g=x\$ rF~\$ lBX\$ (\$k

2 \$D\$N; R3% s%]! <%M% s%H\$N=g=x\$ r%3% s%]! <%M% s%HL>\$ r; B j\$7\$FF~\$ lBX\$ (\$k! # C1BN%3% s%]! <%M% s%H\$K\$ *\$ \$F\$3\$N% a%=%C% I\$CL\$; MQ\$N\$?\$a! "RTM_ERR \$rJV\$9! #

6.1.5.94 virtual RtmRes RTM::RtcBase::rtc_reset () throw (CORBA::SystemException, RTM::RTComponent::IllegalTransition) [virtual]

[CORBA interface] %3% s%]! <%M% s%H\$N% j%;%C%H

%3% s%]! <%M% s%H\$N> BV\$r ERROR \$+\$i INITIALIZE \$KA+0\5\$;\$k! #INITIALIZE 8e% (%i! <\$,\$J\$1\$1\$P\$9\$0\$K READY > BV\$KA+0\9\$;\$k! # \$3\$N% *%Z%1! <%7%g% s\$rH/9T\$9\$k\$H\$-! "%3% s%]! <%M% s%H\$O ERROR > BV\$G\$J\$1\$1\$P \$J\$ i\$J\$;\$! #B>\$N> BV\$N> 9g\$K\$O IllegalTransition Nc30\$,H/@8\$9\$;\$k! #

6.1.5.95 virtual RtmRes RTM::RtcBase::rtc_set_parent (RTCBase_ptr comp) [virtual]

[CORBA interface] ?F%3% s%]! <%M% s%H\$r%;%C%H\$9\$;\$k

?F%3% s%]! <%M% s%H\$N% *%V%8% '%/%H% j%U% !%1% s%9\$ r%;%C%H\$9\$;\$k! #

**6.1.5.96 virtual RtmRes RTM::RtcBase::rtc_start () throw
(CORBA::SystemException, RTM::RTComponent::IllegalTransition)
[virtual]**

[CORBA interface] %3%s%]! <%M% s%H\$N% "%/%F% #V2=

%3%s%]! <%M% s%H\$N> BV\$r READY \$+s i ACTIVE \$KA+0\\$5\$;\$k! # \$3\$N% *%Z%l! <%7%g% s\$r
H/9T\$9\$k\$H\$-! "%3%s%]! <%M% s%H\$O READY > BV\$G\$J\$1\$1\$P \$J\$ i\$J\$ \$! #B>\$N> BV\$N> 9g\$K\$O
IllegalTransition Nc3 0\$,H/08\$9\$k! #

6.1.5.97 virtual RtmRes RTM::RtcBase::rtc_start_thread () [virtual]

[CORBA interface] % "%/%F% #S%F% #9%l%C I\$N%9%?! <%H

%3%s%]! <%M% s%H% "%/%F% #S%F% #N\$F bI t%9%l%C I\$r%9%?! <%H\$5\$;\$k

**6.1.5.98 virtual RtmRes RTM::RtcBase::rtc_starting_entry () [inline,
virtual]**

[CORBA interface] entry: starting() %a%=%C%I

STARTING > BV\$X?JF~\$9\$k\$H\$-\$K1 EY\$ @ \$18F\$S=F\$5\$1\$k%a%=%C%I! # % (%i! <\$,\$J\$1\$1\$P AC-
TIVE > BV\$XA+0\\$9\$k! # La\$ jCM\$, RTM_ERR \$G ERROR > BV\$X! " RTM_FATALERR \$G
FATAL_ERROR > BV\$XA+0\\$9\$k! #

6.1.5.99 virtual OutPort_ptr RTM::RtcBase::rtc_state () [virtual]

[CORBA interface] % "%/%F% #S%F% #9%F! <%?%9\$NOutPort \$N< H@

% "%/%F% #S%F% #9%F! <%?%9\$NOutPort \$N% *%V%8% '%/%H% j%U% !%l%s%9\$r< H@ \$9\$k! #

**6.1.5.100 virtual RtmRes RTM::RtcBase::rtc_stop () throw
(CORBA::SystemException, RTM::RTComponent::IllegalTransition)
[virtual]**

[CORBA interface] %3%s%]! <%M% s%H\$NHs% "%/%F% #V2=

%3%s%]! <%M% s%H\$N> BV\$r ACTIVE \$+s i READY \$KA+0\\$5\$;\$k! # \$3\$N% *%Z%l! <%7%g% s\$r
H/9T\$9\$k\$H\$-! "%3%s%]! <%M% s%H\$O ACTIVE > BV\$G\$J\$1\$1\$P \$J\$ i\$J\$ \$! #B>\$N> BV\$N> 9g\$K\$O
IllegalTransition Nc3 0\$,H/08\$9\$k! #

6.1.5.101 virtual RtmRes RTM::RtcBase::rtc_stop_thread () [virtual]

[CORBA interface] % "%/%F% #S%F% #9%l%C I\$N%9%H% C%W

%3%s%]! <%M% s%H% "%/%F% #S%F% #N\$F bI t%9%l%C I\$r%9%H% C%W\$5\$;\$k

6.1.5.102 virtual RtmRes RTM::RtcBase::rtc_stopping_entry () [inline, virtual]

[CORBA interface] entry: stopping() %a%=%C%I

STOPPING > BV\$X?JF~\$9\$K\$H\$-\$K1 EY\$@ \$18F\$S=P\$5\$1\$K\$a%=%C%I # % (%i!<\$,\$J\$1\$1\$P
READY > BV\$XA+0\\$9\$K! # La\$ jCM\$, RTM_ERR \$G ERROR > BV\$X! " RTM_FATALERR \$G
FATAL_ERROR > BV\$XA+0\\$9\$K! #

6.1.5.103 virtual RtmRes RTM::RtcBase::rtc_suspend_thread () [virtual]

[CORBA interface] %"/%F%#%S%F%#%9%1%C%I\$N%5%9%Z%S%I

%3%S%J!<%M%S%H%"/%F%#%S%F%#\$NF' bI t%9%1%C%I\$r%5%9%Z%S%I\$5\$;\$k

6.1.5.104 virtual RtmRes RTM::RtcBase::rtc_worker () [virtual]

[CORBA interface] %a%\$%S%"/%F%#%S%F%#\$N%a%=%C%I

%3%S%J!<%M%S%H\$N%"/%F%#%S%F%#\$NK\BN\$O\$3\$N%a%=%C%I\$r< 4|< BT\$9\$K\$3\$H\$K\$h\$j=hM}\$5\$1
\$k! #C1BN\$N%3%S%J!<%M%S%H\$G\$CF' bI tE*\$J%9%1%C%I\$K\$h\$j\$3\$N%a%=%C%I\$r< 4|8F=P\$9\$K\$3\$H\$G=h
M}\$r9T\$C\$F\$S\$K! # %9%1%C%I\$rDd; _\$5\$;! "30I t\$+\$i\$3\$N%*%Z%1!<%7%g\$s\$r8F\$S=P\$9\$3\$H\$K\$h\$j! "
G\$0U\$N%?\$%\$_%S%O\$G%"/%F%#%S%F%#\$r< BT\$9\$K\$3\$H\$b=FMh\$K! #

6.1.5.105 virtual string RTM::RtcBase::setComponentName (int num) [virtual]

%3%S%J!<%M%S%HL>\$r%,\$C%H\$9\$K

%3%S%J!<%M%S%H\$N%b%8%e!<%kL>\$K0z?t\$GM?\$ (\$i\$1\$K?t; \$rIU2C\$7\$? %3%S%J!<%M%S%HL>\$rJV
\$9! # %f!<%6\$O\$3\$N%a%=%C%I\$r%*!<%P!<%i%\$%I\$7\$F! "%3%S%J!<%M%S%HL>\$NL?L>J}K!\$r%+%9%?%^\$
%:\$9\$K\$3\$H\$,=FMh\$K! #

0z?t:

-4pt num %3%S%J!<%M%S%H\$N%\$%S%9%?%S%9HV9f

6.1.5.106 void RTM::RtcBase::setNamingPolicy (NamingPolicy policy)

6.1.5.107 virtual int RTM::RtcBase::svc (void) [virtual]

%3%S%J!<%M%S%H\$N%"/%F%#%S%F%#%9%1%C%I4X?t

%3%S%J!<%M%S%H\$NF' bI t%"/%F%#%S%F%#%9%1%C%I\$N< BT4X?t! # \$3\$1\$O ACE_Task %5!<%S%9%/
%i%9\$a%=%C%I\$N%*!<%P!<%i%\$%I! #

6.1.5.108 virtual char* RTM::RtcBase::version () [virtual]

[CORBA interface] version \$N< E@

%3%\$%!<%M%\$H\$N%P!<%8%g%\$r< E@9\$K!#

6.1.5.109 void RTM::RtcBase::writeAllOutPorts ()

A4\$F\$N OutPort \$N%G!<=?=q\$-=\$7.

A4\$F\$N OutPort \$KBP\$7\$F OutPort::write() \$r< BT!#M=\$a%P%\$%\$ I\$5\$1\$?JQ?t\$N CM\$r%5%V%9
%/%i%\$%P\$K=q\$-=\$P\$9\$?\$a\$N%P%C%U%!\$K=q\$-9~\$^\$1\$K!# JQ?t\$K%P%\$%\$ I\$5\$1\$F\$J\$J\$InPort \$G
\$Q2?\$b5 \$3\$i\$J\$J\$!

6.1.6 JQ?t**6.1.6.1 StateFunc RTM::RtcBase::_do_func[11] [protected]**

%"/%F%#%S%F%#\$N do 4X?t%F!<%V%k

6.1.6.2 StateFunc RTM::RtcBase::_entry_func[11] [protected]

%"/%F%#%S%F%#\$N entry 4X?t%F!<%V%k

6.1.6.3 StateFunc RTM::RtcBase::_exit_func[11] [protected]

%"/%F%#%S%F%#\$N exit 4X?t%F!<%V%k

6.1.6.4 std::list<string> RTM::RtcBase::m_Alias [protected]

%3%\$%!<%M%\$HL>\$N alias

6.1.6.5 ComponentStateMtx RTM::RtcBase::m_CurrentState [protected]

%"/%F%#%S%F%#\$NB=:> BVJQ?t

6.1.6.6 InPorts RTM::RtcBase::m_InPorts [protected]

mutex IU\$-InPort %j%9H

6.1.6.7 RtcMedLogbuf RTM::RtcBase::m_MedLogbuf [protected]

%m%,!<Cg2p%P%C%U%!

6.1.6.8 RTCBase_var RTM::RtcBase::m_MyObjRef [protected]

< J,< 7H\$N%*%V%8%'%/%H%j%U%!%l%s%9

6.1.6.9 NamingPolicy RTM::RtcBase::m_NamingPolicy [protected]**6.1.6.10 ComponentStateMtx** RTM::RtcBase::m_NextState [protected]

%"%/%F%#%S%F%#\$N< 3 BVJQ?t

6.1.6.11 OutPorts RTM::RtcBase::m_OutPorts [protected]

mutex IU\$-OutPort %j%9%H

6.1.6.12 RTCBase_var RTM::RtcBase::m_Parent [protected]

?F%3%s%]!<%M%S%H\$N%*%V%8%'%/%H%j%U%!%l%s%9

6.1.6.13 RtcManager* RTM::RtcBase::m_pManager [protected]

Manager %]%%\$%S%3JQ?t

6.1.6.14 CORBA::ORB_ptr RTM::RtcBase::m_pORB [protected]

ORB %]%%\$%S%3JQ?t

6.1.6.15 PortableServer::POA_ptr RTM::RtcBase::m_pPOA [protected]

POA %]%%\$%S%3JQ?t

6.1.6.16 RtcModuleProfile RTM::RtcBase::m_Profile [protected]

%3%s%]!<%M%S%H%W%W%U%!%\$%k

6.1.6.17 RtcServiceAdmin RTM::RtcBase::m_ServiceAdmin [protected]

%5! <%S%9%j%9%H

6.1.6.18 OutPortAny<TimedState> RTM::RtcBase::m_StatePort [protected]

%"%/%F%#%S%F%#> BVOutPort

6.1.6.19 ThreadState RTM::RtcBase::m_ThreadState [protected]

%"%/%F%#%S%F%#%9%1%C%I> BVUQ?t

6.1.6.20 TimedState RTM::RtcBase::m_TimedState [protected]

%"%/%F%#%S%F%#> BVUQ?t

6.1.6.21 RtcLogStream RTM::RtcBase::rtcout [protected]

%m% ,! <%9%H%j! <% '

\$3\$N%/%i%9\$N%bL@&\$O< \$N%U% !%\$%k\$+\$i@8@.\$5\$1\$^\$7\$?:

- RtcBase.h

6.2 9=BN RTM::RtcBase::ComponentStateMtx

```
% "%/%F%#%S%F%#> BVJQ?t%/%i%9
```

```
#include <RtcBase.h>
```

Public %a%=%C%I

- **ComponentStateMtx** ()

```
% "%/%F%#%S%F%#>uBVJQ?t%/%i%9%3%s%9%H%i%/%?
```

Public JQ?t

- **ComponentState _state**

```
% "%/%F%#%S%F%#>uBV
```

- **ACE_Thread_Mutex _mutex**

```
% "%/%F%#%S%F%#>uBVJQ?t Mutex
```

6.2.1 @bL@

```
% "%/%F%#%S%F%#> BVJQ?t%/%i%9
```

6.2.2 %3%s%9%H%i%/%?%\$H%G%9%H%i%/%?

6.2.2.1 RTM::RtcBase::ComponentStateMtx::ComponentStateMtx () [inline]

```
% "%/%F%#%S%F%#> BVJQ?t%/%i%9%3%s%9%H%i%/%?
```

6.2.3 JQ?t

6.2.3.1 ACE_Thread_Mutex RTM::RtcBase::ComponentStateMtx::_mutex

```
% "%/%F%#%S%F%#> BVJQ?t Mutex
```

6.2.3.2 ComponentState RTM::RtcBase::ComponentStateMtx::_state

```
% "%/%F%#%S%F%#> BV
```

```
$3$N9=BN$N9bL@ $OK $N%U!%$%k$+$i@8@.$5$1$^$7$?.
```

- RtcBase.h

6.3 %/%i%9 RTM::RtcBase::eq_name

```
%3% s% ]! <%M% s%HL>Hf3S Fanctor %/%i%9
```

```
#include <RtcBase.h>
```

Public %a%=%C%I

- **eq_name** (const char *name)
- bool **operator()** (InPortBase *ch)
- bool **operator()** (OutPortBase *ch)

Public JQ?t

- const string **m_name**

6.3.1 @bL@

```
%3% s% ]! <%M% s%HL>Hf3S Fanctor %/%i%9
```

6.3.2 %3% s%9%H% i%/% ?\$H%G%9%H% i%/% ?

6.3.2.1 RTM::RtcBase::eq_name::eq_name (const char * *name*) [inline]

6.3.3 4X?t

6.3.3.1 bool RTM::RtcBase::eq_name::operator() (OutPortBase * *ch*) [inline]

6.3.3.2 bool RTM::RtcBase::eq_name::operator() (InPortBase * *ch*) [inline]

6.3.4 JQ?t

6.3.4.1 const string RTM::RtcBase::eq_name::m_name

```
$3$N%/%i%9$N@bL@($O< $N%U% !%$%k$+$i@8@.$5$1$^$7$?:
```

- **RtcBase.h**

6.4 9=B\$BN RTM::RtcBase::InPorts

```
mutex IU$-InPort %j%9%H9=B$BN
```

```
#include <RtcBase.h>
```

Public JQ?t

- std::list< **InPortBase** * > **m_List**
- ACE_Thread_Mutex **m_Mutex**

6.4.1 @bL@

```
mutex IU$-InPort %j%9%H9=B$BN
```

6.4.2 JQ?t

6.4.2.1 std::list<InPortBase*> RTM::RtcBase::InPorts::m_List

6.4.2.2 ACE_Thread_Mutex RTM::RtcBase::InPorts::m_Mutex

```
$3$N9=B$BN$N@bL@ $OK $N%U% !%$%k$+$i@8@.$5$1$^$7$?.
```

- **RtcBase.h**

6.5 `RTM::RtcBase::OutPorts`

```
mutex IUS- OutPort %j%9%H9=BN
```

```
#include <RtcBase.h>
```

Public `JQ?t`

- `std::list< OutPortBase * > m_List`
- `ACE_Thread_Mutex m_Mutex`

6.5.1 `@bL@`

```
mutex IUS- OutPort %j%9%H9=BN
```

6.5.2 `JQ?t`

6.5.2.1 `std::list<OutPortBase*> RTM::RtcBase::OutPorts::m_List`

6.5.2.2 `ACE_Thread_Mutex RTM::RtcBase::OutPorts::m_Mutex`

```
$3$N9=BN$N0bL@O< $N%U% !%$%k$+$i@8@.$5$1$^$7$?:
```

- `RtcBase.h`

6.6 %/%i%9 RTM::RtcBase::ThreadState

```
#include <RtcBase.h>
```

Public %a%=%C%I

- **ThreadState** ()

Public JQ?t

- **ThreadStates** m_Flag
- **ACE_Thread_Mutex** m_Mutex

6.6.1 %3%S%9%H%i%/%? \$H%G%9%H%i%/%?

6.6.1.1 **RTM::RtcBase::ThreadState::ThreadState** () [inline]

6.6.2 JQ?t

6.6.2.1 **ThreadStates** **RTM::RtcBase::ThreadState::m_Flag**

6.6.2.2 **ACE_Thread_Mutex** **RTM::RtcBase::ThreadState::m_Mutex**

\$3\$N%/%i%9\$N%hL@ \$Q< \$N%U% !%\$%k\$+\$i@8@.\$5\$1\$^\$7\$?:

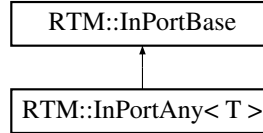
- **RtcBase.h**

6.7 %/%i%9 RTM::InPortBase

InPort 4pDl%/%i%9.

#include <RtcInPortBase.h>

RTM::InPortBase \$KBP\$9\$k7Q> \$0%i%U



Public %a%=%C%I

- **InPortBase** ()
InPortBase(p. 135) %/%i%9%3%\$%9%#i%/%?.
- virtual ~**InPortBase** ()
InPortBase(p. 135) %/%i%9%G%9%#i%/%?.
- virtual void **put** (const CORBA::Any &value)=0 throw (CORBA::SystemException, RTM::PortBase::Disconnected)
[CORBA interface] InPort \$KCM\$rEO\$9
- virtual PortProfile * **profile** () throw (CORBA::SystemException)
[CORBA interface] InPort \$N%W%#U% !%\$%k\$r<hF@9\$ k
- virtual RtmRes **subscribe** (SubscriptionProfile &subs) throw (CORBA::SystemException, RTM::PortBase::InvalidSubscription)
- virtual RtmRes **notify_subscribe** (SubscriptionProfile &subs) throw (CORBA::SystemException, RTM::PortBase::InvalidSubscription)
- virtual RtmRes **unsubscribe** (const char *id) throw (CORBA::SystemException, RTM::PortBase::NoSubscription)
- virtual RtmRes **notify_unsubscribe** (const char *id) throw (CORBA::SystemException, RTM::PortBase::NoSubscription)
- virtual SubscriptionList * **subscriptions** ()
- const char * **name** ()
InPort \$NL>A0\$r<hF@9\$ k
- virtual void **read_pm** ()=0
%P%\$%\$ I\$5\$1\$? T 7?\$NJQ? t\$K InPort %P%C%U% !\$N: G? 7CM\$rF I\$ _9~\$ '
- virtual InPort_ptr **getObjRef** ()
- virtual void **setObjRef** (InPort_ptr objref)

Protected 7?

- typedef std::list< **SubsProfileBase** * >::iterator **Subs_it**
%5%V%9%/%i%\$%F\$N%j%9%H

Protected JQ?t

- PortProfile **m_Profile**
InPort \$N%W%n%U% !%\$%k.
- Subscribers **m_Subscribers**
- InPort_var **m_thisObjRef**
OutPort <+?H\$N%*%V%8%'%/%H%j%U% !%1% s%9.

6.7.1 @bL@

InPort 4pDl%/%i%9.
InPort \$N< Bu\$G\$ " \$k InPort<T> \$N4pDl%/%i%9! # CORBA interface \$X\$N< Bu\$nd\$6 \$9\$ k! #

6.7.2 7 ?Dj5A

6.7.2.1 typedef std::list<SubsProfileBase*>::iterator RTM::InPortBase::Subs_it [protected]

%5%V%9%/%i%\$%F\$N%j%9%H

6.7.3 %3% s%9%H% i%/% ?\$H%G%9%H% i%/% ?

6.7.3.1 RTM::InPortBase::InPortBase () [inline]

InPortBase(p.135) %/%i%9%3% s%9%H% i%/% ?.
InPortBase(p.135) \$N%/%i%9%3% s%9%H% i%/% ?! #

6.7.3.2 virtual RTM::InPortBase::~~InPortBase () [inline, virtual]

InPortBase(p.135) %/%i%9%G%9%H% i%/% ?.
InPortBase(p.135) \$N%/%i%9%G%9%H% i%/% ?! #

6.7.4 4X?t

6.7.4.1 virtual InPort_ptr RTM::InPortBase::getObjRef () [virtual]

6.7.4.2 const char* RTM::InPortBase::name () [inline]

InPort \$NL>A0\$r< E@9\$k

6.7.4.3 virtual RtmRes RTM::InPortBase::notify_subscribe
(SubscriptionProfile & *subs*) throw (CORBA::SystemException,
RTM::PortBase::InvalidSubscription) [virtual]

6.7.4.4 virtual RtmRes RTM::InPortBase::notify_unsubscribe (const char * *id*)
throw (CORBA::SystemException, RTM::PortBase::NoSubscription)
[virtual]

6.7.4.5 virtual PortProfile* RTM::InPortBase::profile () throw
(CORBA::SystemException) [virtual]

[CORBA interface] InPort \$N%W% m%U% !% \$%k\$r< E@9\$k

6.7.4.6 virtual void RTM::InPortBase::put (const CORBA::Any & *value*)
throw (CORBA::SystemException, RTM::PortBase::Disconnected)
[pure virtual]

[CORBA interface] InPort \$KCM\$rEO9

RTM::InPortAny< T > (p. 143) \$r< Bu\$ 7\$F\$ \$\$ ^\$9.

6.7.4.7 virtual void RTM::InPortBase::read_pm () [pure virtual]

%P% \$%s% I\$ 5\$ 1\$? T 7?\$NUQ?t\$K InPort %P%C%U% !\$N: G? 7CM\$ rF I\$ _9 ~\$ '

=c?h2>A [4X?t! #GI@8%/%i%9\$K\$h\$j%*! <%P! <%i%\$%I\$ 5\$ 1%]%j%b! <%U%#C%/\$K ; MQ\$ 5\$ 1\$k; \$r4k
? ^\$ 7\$?%a%=%C%I! #

RTM::InPortAny< T > (p. 143) \$r< Bu\$ 7\$F\$ \$\$ ^\$9.

6.7.4.8 virtual void RTM::InPortBase::setObjRef (InPort_ptr *objref*)
[virtual]

6.7.4.9 virtual RtmRes RTM::InPortBase::subscribe (Subscription-
Profile & *subs*) throw (CORBA::SystemException,
RTM::PortBase::InvalidSubscription) [virtual]

6.7.4.10 virtual SubscriptionList* RTM::InPortBase::subscriptions ()
[virtual]

6.7.4.11 virtual RtmRes RTM::InPortBase::unsubscribe (const char * *id*)
throw (CORBA::SystemException, RTM::PortBase::NoSubscription)
[virtual]

6.7.5 JQ?t

6.7.5.1 PortProfile RTM::InPortBase::m_Profile [protected]

InPort \$N%W% m%U% !%\$%k.

6.7.5.2 Subscribers RTM::InPortBase::m_Subscribers [protected]

6.7.5.3 InPort_var RTM::InPortBase::m_thisObjRef [protected]

OutPort < ?H\$N% *%V%8% ' %/%H% j%U% !%1%S%9.

\$3\$N%/%i%9\$N%bL@ \$O< \$N%U% !%\$%k\$+\$i@8@.\$5\$1\$^\$7\$?.

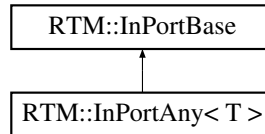
- RtcInPortBase.h

6.8 %/%i%9 %F%S%W%l! <%HRTM::InPortAny< T >

InPort %F%S%W%l! <%H%/%i%9.

#include <RtcInPort.h>

RTM::InPortAny< T > \$KBPS9\$k7Q? \$0%i%u



Public %a%=%C%I

- **InPortAny** (const char *name, T &value, int bufsize=64)
InPortAny(p. 139) %/%i%9%3%s%9%H%i%/%?.
- **InPortAny** (const char *name, int bufsize=64)
InPortAny(p. 139) %/%i%9%3%s%9%H%i%/%?.
- virtual ~**InPortAny** ()
InPortAny(p. 139) %/%i%9%3%s%9%H%i%/%?.
- virtual void **put** (const CORBA::Any &value) throw (RTM::PortBase::Disconnected, CORBA::SystemException)
[CORBA interface] InPort \$KCM\$rM?\$(\$k
- virtual void **initBuffer** (T &value)
InPort Fb\$N% j% s% 0%P% C%U% !\$NCM\$r=i4 |2=.
- virtual void **read_pm** ()
%P% \$% s% I\$ 5\$ 1\$? T 7?\$NJQ? t\$K InPort %P% C%U% !\$N: G? TCM\$rF I\$ _9 ~\$ '
- virtual T **read** ()
%P% \$% s% I\$ 5\$ 1\$? T 7?\$NJQ? t\$K InPort %P% C%U% !\$N: G? TCM\$rF I\$ _9 ~\$ '
- virtual bool **operator>>** (T &rhs)
T 7?\$N%G! <% ?\$X InPort \$N: G? TCM\$rG! <% ?\$ rF I\$ _9 ~\$ '.
- virtual bool **isNew** ()
: G? %G! <% ?\$, L\$F I\$N? 7\$ 7\$ %G! <% ?\$ +\$ I\$ &\$ +\$ rD4\$ Y\$ k
- virtual int **getNewDataLen** ()
L\$F I\$N? 7\$ 7\$ %G! <% ?? t\$r<hF @ \$ 9\$ k.
- virtual std::vector< T > **getNewList** ()
L\$F I\$N? 7\$ 7\$ %G! <% ?\$ r<hF @ \$ 9\$ k.

- virtual std::vector< T > **getNewListReverse** ()
L\$F I\$N? 7\$ 7\$ \$%G! <% ?\$ r5U=g (? 7-> 8E) \$G<hF @ \$ 9\$ k
- virtual PortProfile * **profile** () throw (CORBA::SystemException)
[CORBA interface] InPort \$N%W%n%U% !% \$%k\$ r<hF @ \$ 9\$ k
- virtual RtmRes **subscribe** (SubscriptionProfile &subs) throw (CORBA::SystemException, RTM::PortBase::InvalidSubscription)
- virtual RtmRes **notify_subscribe** (SubscriptionProfile &subs) throw (CORBA::SystemException, RTM::PortBase::InvalidSubscription)
- virtual RtmRes **unsubscribe** (const char *id) throw (CORBA::SystemException, RTM::PortBase::NoSubscription)
- virtual RtmRes **notify_unsubscribe** (const char *id) throw (CORBA::SystemException, RTM::PortBase::NoSubscription)
- virtual SubscriptionList * **subscriptions** ()
- const char * **name** ()
InPort \$NL>A0\$ r<hF @ \$ 9\$ k
- virtual InPort_ptr **getObjRef** ()
- virtual void **setObjRef** (InPort_ptr objref)

Protected 7?

- typedef std::list< **SubsProfileBase** * >::iterator **Subs_it**
%5%V%9%/%i%\$%F\$N%j%9%H

Protected JQ?t

- PortProfile **m_Profile**
InPort \$N%W%n%U% !% \$%k.
- Subscribers **m_Subscribers**
- InPort_var **m_thisObjRef**
OutPort <+?H\$N%*%V%8%'%/%H%j%U% !%1% s%9.

6.8.1 @bL@

template<class T> class RTM::InPortAny< T >

InPort %F% s%W%1! <%H%/%i%9.

InPort \$N< B\$G\$ "\$k InPortAny<T> \$N%F%\$%W%l! <%H%/%i%9! # \$ORTCDataType.idl \$K\$EDj
 5 A5\$ 1\$F\$ \$\$k7? \$G! "%a%\$%P\$H\$ 7\$F Time 7?\$Ntm , \$*\$h\$S T 7?\$Ndata \$r; \$D9=B\$BN\$G\$J\$/\$F
 \$O\$J\$ i\$J\$ \$! # InPort \$O\$bi\$K\$ j%\$%0%P%\$%U%!\$r; \$A! "3 0I t\$+\$iAw? . \$5\$ 1\$?%G! <%?\$r=g< ! \$3\$N
 % j%\$%0%P%\$%U%!\$K3JG<\$9\$k! # % j%\$%0%P%\$%U%!\$N%5%\$%:\$O%G%U%)%k%H\$G64 \$H \$J\$C\$F\$ \$\$k\$,! "%3
 %\$%9%H%i%/%?0 z?t\$K\$h\$j%5%\$%:\$r; Øj\$9\$k\$3\$H\$,\$G\$-\$k! # %G! <%?\$O%U%i%0\$K\$h\$C\$FL\$F I! "4 {F I
 > Bv\$,4IM}\$5\$ 1! 'lsNew(), **getNewDataLen()**(p. 142) **getNewList()**(p. 142), **getNewList-
 Reverse()**(p. 142) Ey\$N%a%=%C%I\$K\$h\$j%O%\$%I% j%\$%0\$9\$k\$3\$H\$,\$G\$-\$k! #

6.8.2 7?Dj5A

6.8.2.1 typedef std::list<SubsProfileBase*>::iterator RTM::InPortBase::Subs_it [protected, inherited]

%5%V%9%/%i%\$%P\$N% j%9%H

6.8.3 %3%\$%9%H%i%/%?\$H%G%9%H%i%/%?

6.8.3.1 template<class T> RTM::InPortAny< T >::InPortAny (const char * name, T & value, int bufsize = 64) [inline]

InPortAny(p. 139) %/%i%9%3%\$%9%H%i%/%?.

InPortAny<T> %/%i%9\$N%3%\$%9%H%i%/%?! # %Q%i%a! <%?\$H\$ 7\$EM?\$ (\$i\$ 1\$k T 7?\$NJQ?t\$K\$P%\$
 %\$%I\$5\$ 1\$k! #

0 z?t:

-4pt **name** InPort L>! #InPortBase: **name()**(p. 142) \$K\$h\$j; 2 \$5\$ 1\$k! #
value \$3\$N InPort \$K\$P%\$%\$%I\$5\$ 1\$k T 7?\$NJQ?t
bufsize InPort Fbi\$t\$N% j%\$%0%P%\$%U%!\$N%P%\$%U%!D9

6.8.3.2 template<class T> RTM::InPortAny< T >::InPortAny (const char * name, int bufsize = 64) [inline]

InPortAny(p. 139) %/%i%9%3%\$%9%H%i%/%?.

InPortAny<T> %/%i%9\$N%3%\$%9%H%i%/%?! #

0 z?t:

-4pt **name** InPort L>! #InPortBase: **name()**(p. 142) \$K\$h\$j; 2 \$5\$ 1\$k! #
bufsize InPort Fbi\$t\$N% j%\$%0%P%\$%U%!\$N%P%\$%U%!D9

6.8.3.3 template<class T> virtual RTM::InPortAny< T >::~InPortAny () [inline, virtual]

InPortAny(p. 139) %/%i%9%G%9%H%i%/%?.

InPortAny<T> %/%i%9\$N%G%9%H%i%/%?! #

6.8.4 4X?t

6.8.4.1 `template<class T> virtual int RTM::InPortAny< T >::getNewDataLen
() [inline, virtual]`

L\$F I\$N? 7\$ 7\$ \$%G! <% ??t\$r< H@ \$9\$k

6.8.4.2 `template<class T> virtual std::vector<T> RTM::InPortAny< T
>::getNewList () [inline, virtual]`

L\$F I\$N? 7\$ 7\$ \$%G! <% ?\$r< H@ \$9\$k

6.8.4.3 `template<class T> virtual std::vector<T> RTM::InPortAny< T
>::getNewListReverse () [inline, virtual]`

L\$F I\$N? 7\$ 7\$ \$%G! <% ?\$r5 Ug(? 7> 8E) \$G< H@ \$9\$k

6.8.4.4 `virtual InPort_ptr RTM::InPortBase::getObjRef () [virtual,
inherited]`

6.8.4.5 `template<class T> virtual void RTM::InPortAny< T >::initBuffer (T
& value) [inline, virtual]`

InPort Fb\$N% j% s% 0% P% C% U% !\$NCM\$ r=i4 |2=

InPort Fb\$N% j% s% 0% P% C% U% !\$NCM\$ r=i4 |2=\$ 9\$k! #

6.8.4.6 `template<class T> virtual bool RTM::InPortAny< T >::isNew ()
[inline, virtual]`

:G? 7%G! <% ?\$,L\$F I\$N? 7\$ 7\$ \$%G! <% ?\$ +\$ I\$ &\$ +\$ rD 4\$ Y\$k

6.8.4.7 `const char* RTM::InPortBase::name () [inline, inherited]`

InPort \$NL>A0\$r< H@ \$9\$k

6.8.4.8 virtual RtmRes RTM::InPortBase::notify_subscribe
(SubscriptionProfile & *subs*) throw (CORBA::SystemException,
RTM::PortBase::InvalidSubscription) [virtual, inherited]

6.8.4.9 virtual RtmRes RTM::InPortBase::notify_unsubscribe (const char * *id*)
throw (CORBA::SystemException, RTM::PortBase::NoSubscription)
[virtual, inherited]

6.8.4.10 template<class T> virtual bool RTM::InPortAny< T >::operator<>
(T & *rhs*) [inline, virtual]

T 7?N%G! <%?X InPort \$N: G? 7CM%G! <%?F I\$ _9 ~\$ '.

0z?t:

-4pt *rhs* InPort %P%C%U% !\$+\$ iCM\$ rF I\$ _9 ~\$ ' T 7?JQ?t

6.8.4.11 virtual PortProfile* RTM::InPortBase::profile () throw
(CORBA::SystemException) [virtual, inherited]

[CORBA interface] InPort \$N%W%m%U% !%\$%k\$ r< H@ \$9\$ k

6.8.4.12 template<class T> virtual void RTM::InPortAny< T >::put (const
CORBA::Any & *value*) throw (RTM::PortBase::Disconnected,
CORBA::SystemException) [inline, virtual]

[CORBA interface] InPort \$KCM\$r m? \$ (\$k

InPort \$KCM\$r put \$9\$ k! #

RTM::InPortBase (p. 137) \$K< B u\$ 5\$ 1\$ F\$ \$\$ ^\$ 9.

6.8.4.13 template<class T> virtual T RTM::InPortAny< T >::read () [inline,
virtual]

%P%\$%s% I\$ 5\$ 1\$? T 7?N%G! <%?X InPort \$N: G? 7CM%G! <%?F I\$ _9 ~\$ '.

%P%\$%s% I\$ 5\$ 1\$? T 7?N%G! <%?X InPort \$N: G? 7CM%G! <%?F I\$ _9 ~\$ ' ! # %3%\$%9%H% i%/%?G T 7?N%G!
?t\$H InPort \$,%P%\$%s% I\$ 5\$ 1\$ F\$ \$\$ J\$ 1\$ 1\$ P\$ J\$ i\$ J\$ \$! #

6.8.4.14 template<class T> virtual void RTM::InPortAny< T >::read_pm ()
[inline, virtual]

%P%\$%s% I\$ 5\$ 1\$? T 7?N%G! <%?X InPort \$N: G? 7CM%G! <%?F I\$ _9 ~\$ '.

%P%\$%s% I\$ 5\$ 1\$? T 7?N%G! <%?X InPort \$N: G? 7CM%G! <%?F I\$ _9 ~\$ ' ! # %3%\$%9%H% i%/%?G T 7?N%G!
?t\$H InPort \$,%P%\$%s% I\$ 5\$ 1\$ F\$ \$\$ J\$ 1\$ 1\$ P\$ J\$ i\$ J\$ \$! # \$3\$N%a=%C% I\$ O%]% j% b! <%U% #C%/\$K; MQ
\$ 5\$ 1\$ k; \$ rAODs\$ H\$ 7\$ F\$ \$\$ k\$?\$ a! " 7? \$ KOMB 8\$ 7\$ J\$ \$0 z? t! "La\$ jCM\$ H\$ J\$ C\$ F\$ \$\$ k! #

RTM::InPortBase (p.137) \$K< Bu\$5\$1\$F\$ \$\$ ^\$9.

6.8.4.15 `virtual void RTM::InPortBase::setObjRef (InPort_ptr objref)`
[virtual, inherited]

6.8.4.16 `virtual RtmRes RTM::InPortBase::subscribe (Subscription-
Profile & subs) throw (CORBA::SystemException,
RTM::PortBase::InvalidSubscription)` [virtual, inherited]

6.8.4.17 `virtual SubscriptionList* RTM::InPortBase::subscriptions ()`
[virtual, inherited]

6.8.4.18 `virtual RtmRes RTM::InPortBase::unsubscribe (const char * id)`
`throw (CORBA::SystemException, RTM::PortBase::NoSubscription)`
[virtual, inherited]

6.8.5 JQ?t

6.8.5.1 `PortProfile RTM::InPortBase::m_Profile` [protected, inherited]

InPort \$N%W%m%U% !%\$%k

6.8.5.2 `Subscribers RTM::InPortBase::m_Subscribers` [protected, inherited]

6.8.5.3 `InPort_var RTM::InPortBase::m_thisObjRef` [protected, inherited]

OutPort < ?H\$N% *%V%8% ' %/%H% j%U% !%l%S%9.

\$3\$N%/%i%9\$N%bL@ \$OK \$N%U% !%\$%k\$+\$i@8@.\$5\$1\$^\$7\$?

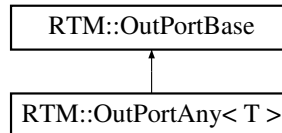
- **RtcInPort.h**

6.9 %/%i%9 RTM::OutPortBase

OutPort 4pD1%/%i%9.

```
#include <RtcOutPortBase.h>
```

RTM::OutPortBase \$KBP\$9\$k7Q 50%i%U



Public 2=C I

- **OutPortBase** ()
OutPortBase(p. 145) %/%i%9%3%8%9%H%i%/%?.
- virtual ~**OutPortBase** ()
OutPortBase(p. 145) %/%i%9%G%9%H%i%/%?.
- virtual CORBA::Any * **get** ()=0 throw (CORBA::SystemException)
[CORBA interface] OutPort \$N8=:_CM\$r<hF@9\$ k
- virtual RtmRes **subscribe** (SubscriptionProfile &subs) throw (CORBA::SystemException, RTM::PortBase::InvalidSubscription)
CORBA interface Return type code of port value. OutPort \$r%5%V%9%/%i%\$%V\$9\$ k.
- virtual RtmRes **notify_subscribe** (SubscriptionProfile &subs) throw (CORBA::SystemException, RTM::PortBase::InvalidSubscription)
OutPort \$r%5%V%9%/%i%\$%V\$9\$ k.
- virtual RtmRes **unsubscribe** (const char *id) throw (CORBA::SystemException, RTM::PortBase::NoSubscription)
OutPort \$N8%5%V%9%/%i%\$%V\$r2r=|9\$ k.
- virtual RtmRes **notify_unsubscribe** (const char *id) throw (CORBA::SystemException, RTM::PortBase::NoSubscription)
OutPort \$N8%5%V%9%/%i%\$%V\$r2r=|9\$ k.
- virtual PortProfile * **profile** () throw (CORBA::SystemException)
8=:_%5%V%9%/%i%\$%V\$7\$F\$ \$\$k *InPort \$N%j%9%H\$r<hF@9\$ k [CORBA interface] OutPort \$N%W% n%U% !%\$%k\$r<hF@9\$ k*
- virtual SubscriptionList * **subscriptions** ()
[CORBA interface] Subscription \$N%j%9%H\$r<hF@9\$ k
- bool **createSubscriber** (SubscriptionProfile &subscription)

- virtual RtmRes **push** (InPort_ptr inport, std::string subsid)=0

8=:_\$N OutPort \$NCM\$r%5%V%9%/%i%\$%P\$Kpush \$9\$k

- virtual void **updateall** ()

8=:_\$N OutPort \$NCM\$r%5%V%9%/%i%\$%P\$KBF\$7\$F99?7

- virtual void **disconnect_all** ()

8=:_\$N%5%V%9%/%i%\$%P\$rA4\$F@ZCG

- virtual const char * **name** ()

OutPort \$NL>A0\$r<hF@ \$9\$k.

- virtual void **write_pm** ()=0

%P%\$%s%I\$5\$L\$? T 7?\$N%G!<?\$r OutPort \$N:G?7CM\$H\$7\$F=c\$-9~\$‘

- virtual OutPort_ptr **getObjRef** ()

- virtual void **setObjRef** (OutPort_ptr objref)

Protected 7?

- typedef std::list< **SubscriberBase** * >::iterator **Subs_it**

%5%V%9%/%i%\$%F\$N%j%9%H

Protected %a%=%C%I

- virtual RtmRes **unsubscribeNoLocked** (const char *id) throw (CORBA::SystemException, RTM::PortBase::NoSubscription)

Protected JQ?t

- **Subscribers m_Subscribers**

- PortProfile **m_Profile**

OutPort \$N%W%I%U% !%\$%k.

- OutPort_var **m_thisObjRef**

OutPort <+?H\$N%*%V%8%'/%H%j%U% !%1% s%9.

6.9.1 @bL@

OutPort 4pDl%/%i%9.

OutPort \$N< Bu\$G\$ " \$k OutPort<T> \$N4pDl%/%i%9! #CORBA interface \$X\$N< Bu\$rD s6 \$9\$k! #

6.9.2 7Dj5A

6.9.2.1 typedef std::list<SubscriberBase*>::iterator RTM::OutPortBase::Subs_it [protected]

%5%V%9%/%i%\$%F\$N%j%9%H

6.9.3 %3%5%9%H%i%/%?%H%G%9%H%i%/%?

6.9.3.1 RTM::OutPortBase::OutPortBase () [inline]

OutPortBase(p. 145) %/%i%9%3%5%9%H%i%/%?.

OutPortBase(p. 145) \$N%/%i%9%3%5%9%H%i%/%?! #

6.9.3.2 virtual RTM::OutPortBase::~~OutPortBase () [inline, virtual]

OutPortBase(p. 145) %/%i%9%G%9%H%i%/%?.

OutPortBase(p. 145) \$N%/%i%9%G%9%H%i%/%?! #

6.9.4 4X?t

6.9.4.1 bool RTM::OutPortBase::createSubscriber (SubscriptionProfile & *subscription*)

6.9.4.2 virtual void RTM::OutPortBase::disconnect_all () [virtual]

8=: _\$N%5%V%9%/%i%\$%F\$rA4\$F@ZCG

6.9.4.3 virtual CORBA::Any* RTM::OutPortBase::get () throw (CORBA::SystemException) [pure virtual]

[CORBA interface] OutPort \$N8=:_CM\$r< F@9\$k

RTM::OutPortAny< T > (p. 153), RTM::OutPortAny< TimedState > (p. 153), \$H
RTM::OutPortAny< TimedString > (p. 153) \$r< Au\$7\$F\$^\$9.

6.9.4.4 virtual OutPort_ptr RTM::OutPortBase::getObjRef () [virtual]

6.9.4.5 virtual const char* RTM::OutPortBase::name () [inline, virtual]

OutPort \$NL>A0\$r< F@9\$k

6.9.4.6 virtual RtmRes RTM::OutPortBase::notify_subscribe
(SubscriptionProfile & *subs*) throw (CORBA::SystemException,
RTM::PortBase::InvalidSubscription) [virtual]

OutPort \$r%5%V%9%/%i%\$%V\$9\$k.

6.9.4.7 virtual RtmRes RTM::OutPortBase::notify_unsubscribe
(const char * *id*) throw (CORBA::SystemException,
RTM::PortBase::NoSubscription) [virtual]

OutPort \$N%5%V%9%/%i%\$%V\$r2r=|9\$k.

6.9.4.8 virtual PortProfile* RTM::OutPortBase::profile () throw
(CORBA::SystemException) [virtual]

8=:_%5%V%9%/%i%\$%V\$7\$F\$\$\$k InPort \$N%j%9%H\$r< E@9\$k [CORBA interface] OutPort \$N%W
%m%U%!%\$%k\$r< E@9\$k

6.9.4.9 virtual RtmRes RTM::OutPortBase::push (InPort_ptr *inport*,
std::string *subsid*) [pure virtual]

8=:_\$N OutPort \$NCM\$r%5%V%9%/%i%\$%P\$Kpush 9\$k

RTM::OutPortAny< T > (p. 154), RTM::OutPortAny< TimedState > (p. 154), \$H
RTM::OutPortAny< TimedString > (p. 154) \$r< Bu\$7\$F\$\$\$^9.

6.9.4.10 virtual void RTM::OutPortBase::setObjRef (OutPort_ptr *objref*)
[virtual]

6.9.4.11 virtual RtmRes RTM::OutPortBase::subscribe (Subscription-
Profile & *subs*) throw (CORBA::SystemException,
RTM::PortBase::InvalidSubscription) [virtual]

CORBA interface Return type code of port value. OutPort \$r%5%V%9%/%i%\$%V\$9\$k.

6.9.4.12 virtual SubscriptionList* RTM::OutPortBase::subscriptions ()
[virtual]

[CORBA interface] Subscription \$N%j%9%H\$r< E@9\$k

6.9.4.13 `virtual RtmRes RTM::OutPortBase::unsubscribe (const char * id)
throw (CORBA::SystemException, RTM::PortBase::NoSubscription)
[virtual]`

OutPort \$N%5%V%9%/%i%\$%V\$r2r=|9\$9\$k

6.9.4.14 `virtual RtmRes RTM::OutPortBase::unsubscribeNoLocked
(const char * id) throw (CORBA::SystemException,
RTM::PortBase::NoSubscription) [protected, virtual]`

6.9.4.15 `virtual void RTM::OutPortBase::updateall () [virtual]`

8=:_N OutPort \$NCM\$r%5%V%9%/%i%\$%F\$KBP\$7\$F99?7

6.9.4.16 `virtual void RTM::OutPortBase::write_pm () [pure virtual]`

%P%\$%s%I\$5\$1\$?T7?N%G!<%?r OutPort \$N:G?7CM\$H\$7\$F=q\$-9~\$‘

=c?h2>A[4X?t!#GI@8%/%i%9\$K\$h\$j%*!<%P!<%i%\$%I\$5\$1%]j%b!<%U%#C%/\$K;MQ\$5\$1\$k; \$r4k
?^\$7\$?%a%=%C%I!#

RTM::OutPortAny< T > (p. 155), **RTM::OutPortAny< TimedState >** (p. 155), **\$H
RTM::OutPortAny< TimedString >** (p. 155) \$r< Bu\$7\$F\$ \$\$^\$9.

6.9.5 JQ?t

6.9.5.1 `PortProfile RTM::OutPortBase::m_Profile [protected]`

OutPort \$N%W%n%U%!%\$%k

6.9.5.2 `Subscribers RTM::OutPortBase::m_Subscribers [protected]`

6.9.5.3 `OutPort_var RTM::OutPortBase::m_thisObjRef [protected]`

OutPort < ?H\$N%*%V%8%’%/%H%j%U%!%1%\$%9.

\$3\$N%/%i%9\$N@bL@QOK \$N%U%!%\$%k\$+\$i@8@.\$5\$1\$^\$7\$?:

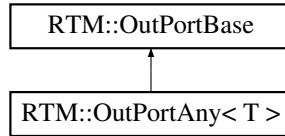
- **RtcOutPortBase.h**

6.10 %/%i%9 %F%S%W%l! <%HRTM::OutPortAny< T >

OutPort %F%S%W%l! <%H%/%i%9.

#include <RtcOutPort.h>

RTM::OutPortAny< T > \$KB\$9\$K7Q> \$0%i%U



Public %a%=%C%I

- **OutPortAny** (const char *name, T &value, int bufsize=DEFAULT_BUFFER_SIZE)
OutPortAny(p. 150) %/%i%9%3%S%9%H%i%/%?.
- **OutPortAny** (const char *name, int bufsize=DEFAULT_BUFFER_SIZE)
OutPortAny(p. 150) %/%i%9%3%S%9%H%i%/%?.
- virtual ~**OutPortAny** ()
OutPortAny(p. 150) %/%i%9%G%9%H%i%/%?.
- CORBA::Any * **get** () throw (CORBA::SystemException)
[CORBA interface] 8=:_N OutPort \$N: G? 7\$NCM\$ r<hF@
- RtmRes **push** (InPort_ptr inport, std::string subsid)
8=:_N OutPort \$NCM\$ r%5%V%9%/%i%\$%P\$KE>Aw
- virtual void **initBuffer** (T &value)
OutPort Fb\$N% j% s%0%P% C%U% !\$NCM\$ r=i4 |2=.
- virtual void **write** ()
%P%\$%S% I\$5\$1\$? T 7?\$N%G! <%?\$r OutPort \$N: G? 7CM\$H\$ 7\$F=c\$-9~\$'
- virtual void **write** (long sec, long nsec)
- virtual void **write_pm** ()
%P%\$%S% I\$5\$1\$? T 7?\$N%G! <%?\$r OutPort \$N: G? 7CM\$H\$ 7\$F=c\$-9~\$'
- virtual void **write** (T value)
T 7?\$N%G! <%?\$r OutPort \$N: G? 7CM\$H\$ 7\$F=c\$-9~\$'.
- virtual void **operator<<** (T &value)
T 7?\$N%G! <%?\$r OutPort \$N: G? 7CM\$H\$ 7\$F=c\$-9~\$'.
- virtual RtmRes **subscribe** (SubscriptionProfile &subs) throw (CORBA::SystemException, RTM::PortBase::InvalidSubscription)

CORBA interface Return type code of port value. OutPort \$r%5%V%9%/%i%\$%V\$9\$k.

- virtual RtmRes **notify_subscribe** (SubscriptionProfile &subs) throw (CORBA::SystemException, RTM::PortBase::InvalidSubscription)
OutPort \$r%5%V%9%/%i%\$%V\$9\$k.
- virtual RtmRes **unsubscribe** (const char *id) throw (CORBA::SystemException, RTM::PortBase::NoSubscription)
OutPort \$N%5%V%9%/%i%\$%V\$r2r=|9\$k.
- virtual RtmRes **notify_unsubscribe** (const char *id) throw (CORBA::SystemException, RTM::PortBase::NoSubscription)
OutPort \$N%5%V%9%/%i%\$%V\$r2r=|9\$k.
- virtual PortProfile * **profile** () throw (CORBA::SystemException)
8=:_%5%V%9%/%i%\$%V\$7\$F\$ \$\$k InPort \$N% j%9%H\$r<hF@9\$k [CORBA interface] OutPort \$N%W %m%U% !%\$%k\$r<hF@9\$k
- virtual SubscriptionList * **subscriptions** ()
[CORBA interface] Subscription \$N% j%9%H\$r<hF@9\$k
- bool **createSubscriber** (SubscriptionProfile &subscription)
- virtual void **updateall** ()
8=:_N OutPort \$NCM\$r%5%V%9%/%i%\$%F\$KBPF7\$F99?7
- virtual void **disconnect_all** ()
8=:_N%5%V%9%/%i%\$%F\$rA4\$F@ZCG
- virtual const char * **name** ()
OutPort \$NL>A0\$r<hF@9\$k.
- virtual OutPort_ptr **getObjRef** ()
- virtual void **setObjRef** (OutPort_ptr objref)

Protected 7?

- typedef std::list< **SubscriberBase** * >::iterator **Subs_it**
%5%V%9%/%i%\$%F\$N% j%9%H

Protected %a%=%C%I

- virtual RtmRes **unsubscribeNoLocked** (const char *id) throw (CORBA::SystemException, RTM::PortBase::NoSubscription)

Protected JQ?t

- Subscribers **m_Subscribers**
- PortProfile **m_Profile**

OutPort \$N%W% m%U% !%\$%k.

- OutPort_var **m_thisObjRef**

OutPort <+?H\$N% *%V%8% '%/%H% j%U% !%1% s%9.

6.10.1 @bL@

template<class T> class RTM::OutPortAny< T >

OutPort %F% s%W% l! <%H%/%i%9.

OutPort \$N< B u\$G\$ " \$k OutPortAny<T> \$N%F% s%W% l! <%H%/%i%9! # \$ORTCDataType.idl \$K
\$FD j5 A5\$ l\$F\$ \$ \$k7 ?\$G! "%a% s%F\$H\$ 7\$F Time 7?\$Ntm , \$*\$h\$S T 7?\$Ndata \$r; \$D9=B\$BN\$G\$J
\$/\$F\$O\$J\$ i\$J\$ \$! #

6.10.2 7?D j5A

**6.10.2.1 typedef std::list<SubscriberBase*>::iterator RTM::OutPort-
Base::Subs_it [protected, inherited]**

%5%V%9%/%i% \$%F\$N% j%9%H

6.10.3 %3% s%9%H% i%/% ?\$H%G%9%H% i%/%?

**6.10.3.1 template<class T> RTM::OutPortAny< T >::OutPortAny (const char
* *name*, T & *value*, int *bufsize* = DEFAULT_BUFFER_SIZE) [inline]**

OutPortAny(p. 150) %/%i%9%3% s%9%H% i%/%?.

OutPortAny<T> %/%i%9\$N%3% s%9%H% i%/%?! # %Q%i%a! <%?\$H\$ 7\$EM?\$ (\$ i\$ l\$ k T 7?\$NJQ? t\$K%P
%\$% s% I\$ 5\$ l\$ k! #

0 z?t:

-4pt ***name*** OutPort L>! #OutPortBase:***name***()(p. 153) \$K\$h\$j; 2 #5\$ l\$ k! #
value \$3\$N OutPort \$K%P%\$% s% I\$ 5\$ l\$ k T 7?\$NJQ? t
bufsize OutPort F bI t\$N% j% s%0%F%C%U% !\$N%P%C%U% !D9

**6.10.3.2 template<class T> RTM::OutPortAny< T >::OutPortAny (const char
* *name*, int *bufsize* = DEFAULT_BUFFER_SIZE) [inline]**

OutPortAny(p. 150) %/%i%9%3% s%9%H% i%/%?.

OutPortAny<T> %/%i%9\$N%3%S%9%H%i%/%?! #

0z?t:

-4pt **name** OutPort L>! #OutPortBase: **name**()(p. 153) \$K\$h\$j; 2 #5\$1\$k! #

bufsize OutPort FbIt\$N%j%S%0%P%C%U!\$N%P%C%U!D9

6.10.3.3 **template<class T> virtual RTM::OutPortAny< T >::~~OutPortAny ()**
[inline, virtual]

OutPortAny(p. 150) %/%i%9%G%9%H%i%/%?.

OutPortAny<T> %/%i%9\$N%G%9%H%i%/%?! #

6.10.4 4X?t

6.10.4.1 **bool RTM::OutPortBase::createSubscriber (SubscriptionProfile &**
subscription) [inherited]

6.10.4.2 **virtual void RTM::OutPortBase::disconnect_all ()** [virtual,
inherited]

8=:_ \$N%5%V%9%/%i%\$%P\$rA4\$F@ZCG

6.10.4.3 **template<class T> CORBA::Any* RTM::OutPortAny< T >::get ()**
throw (CORBA::SystemException) [inline, virtual]

[CORBA interface] 8=:_ \$N OutPort \$N:G?7\$NCM\$r< @

8=:_ \$N OutPort \$N:G?7\$NCM\$r< @ \$9\$k

RTM::OutPortBase (p. 147) \$K< Bu\$5\$1\$F\$ \$\$ ^\$9.

6.10.4.4 **virtual OutPort_ptr RTM::OutPortBase::getObjRef ()** [virtual,
inherited]

6.10.4.5 **template<class T> virtual void RTM::OutPortAny< T >::initBuffer**
(T & value) [inline, virtual]

OutPort Fb\$N%j%S%0%P%C%U!\$NCM\$r=i4|2=.

OutPort Fb\$N%j%S%0%P%C%U!\$NCM\$r=i4|2= \$9\$k! #

6.10.4.6 **virtual const char* RTM::OutPortBase::name ()** [inline, virtual,
inherited]

OutPort \$NL>A0\$r< @ \$9\$k

6.10.4.7 `virtual RtmRes RTM::OutPortBase::notify_subscribe`
 (SubscriptionProfile & *subs*) throw (CORBA::SystemException,
 RTM::PortBase::InvalidSubscription) [virtual, inherited]

OutPort \$r%5%V%9%/%i%\$%V\$9\$k.

6.10.4.8 `virtual RtmRes RTM::OutPortBase::notify_unsubscribe`
 (const char * *id*) throw (CORBA::SystemException,
 RTM::PortBase::NoSubscription) [virtual, inherited]

OutPort \$N%5%V%9%/%i%\$%V\$r2r=|\$9\$k.

6.10.4.9 `template<class T> virtual void RTM::OutPortAny< T >::operator<<`
 (T & *value*) [inline, virtual]

T 7? \$N%G! <%? \$r OutPort \$N:G? 7CM\$H\$ 7\$F=q\$-9~\$ '.

0z?t\$H\$ 7\$EM?\$ (\$i\$1\$? T 7? \$N%G! <%? \$r OutPort \$N:G? 7CM\$H\$ 7\$F=q\$-9~\$ ' ! #

0z?t:

-4pt *value* OutPort %P%C%U% !\$K=q\$-9~\$ ' T 7? \$N%CM

6.10.4.10 `virtual PortProfile* RTM::OutPortBase::profile ()` throw
 (CORBA::SystemException) [virtual, inherited]

8=:_%5%V%9%/%i%\$%V\$ 7\$F\$ \$\$k InPort \$N%j%9%H\$r< E@ \$9\$k [CORBA interface] OutPort \$N%W
 %m%U% !% \$%k\$ r< E@ \$9\$k

6.10.4.11 `template<class T> RtmRes RTM::OutPortAny< T >::push`
 (InPort_ptr *inport*, std::string *subsid*) [inline, virtual]

8=:_ \$N OutPort \$N%\$r%5%V%9%/%i%\$%P\$KE>Aw

8=:_ \$N OutPort \$N%\$r%5%V%9%/%i%\$%P\$KE>Aw\$9\$k

RTM::OutPortBase (p. 148) \$K< Bu\$5\$1\$F\$ \$\$ ^\$9.

6.10.4.12 `virtual void RTM::OutPortBase::setObjRef (OutPort_ptr objref)`
 [virtual, inherited]

6.10.4.13 `virtual RtmRes RTM::OutPortBase::subscribe (Subscription-`
 Profile & *subs*) throw (CORBA::SystemException,
 RTM::PortBase::InvalidSubscription) [virtual, inherited]

CORBA interface Return type code of port value. OutPort \$r%5%V%9%/%i%\$%V\$9\$k.

6.10.4.14 `virtual SubscriptionList* RTM::OutPortBase::subscriptions ()`
`[virtual, inherited]`

[CORBA interface] Subscription \$N% j%9%H\$r< H@9\$K

6.10.4.15 `virtual RtmRes RTM::OutPortBase::unsubscribe (const char * id)`
`throw (CORBA::SystemException, RTM::PortBase::NoSubscription)`
`[virtual, inherited]`

OutPort \$N%5%V%9%/%i%\$%V\$r2r=|9\$K

6.10.4.16 `virtual RtmRes RTM::OutPortBase::unsubscribeNoLocked`
`(const char * id) throw (CORBA::SystemException,`
`RTM::PortBase::NoSubscription) [protected, virtual, inherited]`

6.10.4.17 `virtual void RTM::OutPortBase::updateall ()` `[virtual, inherited]`

8=:_\$N OutPort \$NCM\$r%5%V%9%/%i%\$%P\$KBPF\$7\$F99?7

6.10.4.18 `template<class T> virtual void RTM::OutPortAny< T >::write (T`
`value) [inline, virtual]`

T 7?\$N%G! <%?\$r OutPort \$N:G?7CM\$H\$7\$F=q\$-9~\$'.

0z?t\$H\$7\$FM?\$(\$i\$1\$?T 7?\$N%G! <%?\$r OutPort \$N:G?7CM\$H\$7\$F=q\$-9~\$'!#

0z?t:

-4pt *value* OutPort %P%C%U%!\$K=q\$-9~\$'T 7?\$NCM

6.10.4.19 `template<class T> virtual void RTM::OutPortAny< T >::write (long`
`sec, long nsec) [inline, virtual]`

6.10.4.20 `template<class T> virtual void RTM::OutPortAny< T >::write ()`
`[inline, virtual]`

%P%\$%S%I\$5\$1\$?T 7?\$N%G! <%?\$r OutPort \$N:G?7CM\$H\$7\$F=q\$-9~\$'.

%P%\$%S%I\$5\$1\$?T 7?\$N%G! <%?\$r OutPort \$N:G?7CM\$H\$7\$F=q\$-9~\$'!# %3%S%9%H%i%/%?\$G T
 7?\$NJQ?t\$H OutPort \$,%P%\$%S%I\$5\$1\$F\$ \$\$kI,MW\$,\$" \$k!#

6.10.4.21 `template<class T> virtual void RTM::OutPortAny< T >::write_pm`
`() [inline, virtual]`

%P%\$%S%I\$5\$1\$?T 7?\$N%G! <%?\$r OutPort \$N:G?7CM\$H\$7\$F=q\$-9~\$'.

%P%\$%s% I\$ 5\$ 1\$? T 7 ?\$N%G! <% ?\$r OutPort \$N: G? 7CM\$H\$ 7\$F=q\$ -9~\$ ' ! # %3% s%9%H%i%/% ?\$G T
7 ?\$NUQ?t\$H OutPort \$,%P%\$%s% I\$ 5\$ 1\$F\$ \$\$kI ,MW\$,,\$ "\$k! # \$3\$N%a%=%C% I\$O%]% j%b! <%U% #C% /\$K; H
MQ\$ 5\$ 1\$ k; \$rA0Ds\$H\$ 7\$F\$ \$\$k\$?\$a! " 7 ?\$K0MB8\$ 7\$J\$ \$0 z?t! "La\$ jCM\$H\$ J\$C\$F\$ \$\$k! #

RTM::OutPortBase (p. 149) \$K< Bu\$ 5\$ 1\$F\$ \$\$ ^\$ 9.

6.10.5 JQ?t

6.10.5.1 PortProfile RTM::OutPortBase::m_Profile [protected, inherited]

OutPort \$N%W% m%U% !%\$%k

6.10.5.2 Subscribers RTM::OutPortBase::m_Subscribers [protected, inherited]

6.10.5.3 OutPort_var RTM::OutPortBase::m_thisObjRef [protected, inherited]

OutPort < ?H\$N% *%V%8% '%/%H% j%U% !%l% s%9.

\$3\$N%/%i%9\$N%bL@ \$OK \$N%U% !%\$%k\$ +\$i@8@ . \$5\$ 1\$ ^\$ 7\$?.

- RtcOutPort.h

6.11 9 RTM::RtcManager

RtComponent % ^M! <8% c% /% i% 9.

#include <RtcManager.h>

Public 7?

- typedef bool(* **RtcComponentInit**)(RtcManager *manager)
%3% s%]! <%M% s%H% b% 8% e! <%k=i4 |2=4X?t
- typedef **OutPortAny**< TimedString > **LogOutPort**

Public %a%=%C% I

- **RtcManager** (int argc, char **argv)
RtcManager(p. 157) %/%i%9%3% s%9%H% i%/%?.
- void **shutdown** ()
- virtual ~**RtcManager** ()
RtcManager(p. 157) %/%i%9%G%9%H% i%/%?.
- int **open** (void *args)
% ^M! <8% c% ?%9% /\$r%9%?! <%H\$ 5\$;\$k
- int **svc** (void)
%5! <%S%9\$N%9%1%C% I4X?t
- int **close** (unsigned long flags)
- virtual RtmRes **load** (const char *pathname, const char *initfunc)
[CORBA interface] %b%8%e! <%k\$N% m! <% I
- virtual RtmRes **unload** (const char *pathname)
[CORBA interface] %b%8%e! <%k\$N% "%s% m! <% I
- virtual RTCBase_ptr **create_component** (const char *module_name, const char *category_name, CORBA::String_out instance_name)
[CORBA interface] %3% s%]! <%M% s%H\$N% 8@ .
- virtual RtmRes **delete_component** (const char *instance_name, const char *category_name)
[CORBA interface] %3% s%]! <%M% s%H\$N: o= |
- virtual RTCFactoryList * **factory_list** ()
[CORBA interface] %3% s%]! <%M% s%H Factory %j%9%H\$N<hF@

- virtual RTCBaseList * **component_list** ()
[CORBA interface] %3%\$%!<%M%\$%H%j%9%H\$N<hF@
- virtual RtmRes **command** (const char *cmd, CORBA::String_out ret)
[CORBA interface] 4J0W%\$%\$%?%W%j%?
- void **initManager** ()
% ^%M! <%8% c\$N=i4 |2=
- void **runManager** ()
% ^%M! <%8% c\$N<B9T
- void **runManagerNoBlocking** ()
% ^%M! <%8% c\$N<B9T (H\$%V%π%C%/%b! <%I)
- bool **activateManager** ()
% ^%M! <%8% c%5! <%F%\$%H\$N% "%/F%#%V2=
- void **initModuleProc** (RtcModuleInitProc proc)
%b%8%e! <%k=i4 |2=%k! <%A%\$N<B9T
- bool **createCommand** (string cmd, boost::function2< bool, vector< string > &, vector< string > & > func)
4J0W%\$%\$%?%W%j%?%3% ^%\$%I\$NEFO?
- bool **registerComponent** (RtcModuleProfile &profile, **RtcNewFunc** new_func, **RtcDeleteFunc** delete_func)
%3%\$%!<%M%\$%H%U% !%/%H%j\$NEFO?
- bool **registerComponent** (RtcFactoryBase *factory)
%3%\$%!<%M%\$%H%U% !%/%H%j\$NEFO?
- **RtcBase** * **createComponent** (const string &module_name, const string &category_name, string &comp_name)
%3%\$%!<%M%\$%H%8@8@.
- **RtcBase** * **createComponent** (const string &module_name, const string &category_name)
%3%\$%!<%M%\$%H%8@8@.
- void **cleanupComponent** (const string &instance_name, const string &category_name)
%3%\$%!<%M%\$%H: c=|\$N\$? \$a\$N=hM}
- std::vector< RTCBase_ptr > **findComponents** (const string &comp_name)
%3%\$%!<%M%\$%H8!:w

- std::string **bindInOut** (RTCBase_ptr comp_in, const std::string &inp_name, RTCBase_ptr comp_out, const std::string &outp_name, RTM::SubscriptionType sub_type=RTM::OPS_NEW)
InPort \$H OutPort \$r@ \B3.
- std::string **bindInOutByName** (const std::string &comp_name_in, const std::string &inp_name, const std::string &comp_name_out, const std::string &outp_name, RTM::SubscriptionType sub_type=RTM::OPS_NEW)
InPort \$H OutPort \$rL>A0\$K\$h\$j@ \B3.
- CORBA::ORB_var **getORB** ()
ORB \$N%]% \$% \$% ?\$ r<hF @.
- PortableServer::POA_var **getPOA** ()
POA \$N%]% \$% \$% ?\$ r<hF @.
- RtcLogbuf & **getLogbuf** ()
- RtcConfig & **getConfig** ()
- bool **loadCmd** (const vector< string > &cmd, vector< string > &retval)
- bool **unloadCmd** (const vector< string > &cmd, vector< string > &retval)
- bool **createCommandCmd** (const vector< string > &cmd, vector< string > &retval)
- bool **listComponent** (const vector< string > &cmd, vector< string > &retval)
- bool **listModule** (const vector< string > &cmd, vector< string > &retval)
- bool **commandListCmd** (const vector< string > &cmd, vector< string > &retval)

Public JQ?t

- ComponentMap **m_Components**
%3% \$%]! <%M% \$% H% \$% \$% 9% ?% \$% 9% G! <% ?% Y! <% 9% ^% C% W
- string **m_ManagerName**
% ^% M! <% 8% cL>
- RtcLogbuf **m_Logbuf**
%n% ,! <%P%C%U% !
- RtcMedLogbuf **m_MedLogbuf**
%n% ,! <G2p%P%C%U% !
- RtcLogStream **rtcout**
%n% ,! <% 9% H% j! <% ‘
- TimedString **m_LoggerOut**
- LogOutPort * **m_pLoggerOutPort**
- LogEmitter * **m_pLogEmitter**
- RTCBase_var **m_pMasterLogger**

6.11.1 @bL@

RTComponent %^M! <%8% c%/%i%9.

RtcManager(p. 157) \$O%3% s%]! <%M% s%H\$N% m! <%I! "0 8@ .! "GK4 ~\$J\$ I\$N% i% \$%U% 5%\$%/%k\$ r4 IM} \$9\$k! # \$ ^\$?%3% s%]! <%l% s%H\$ KBP\$ 7\$F3F< 05! <%S% 9\$rDs6 \$9\$k! #

6.11.2 7?Dj5A

6.11.2.1 typedef OutPortAny<TimedString> RTM::RtcManager::LogOutPort

6.11.2.2 typedef bool(* RTM::RtcManager::RtcComponentInit)(RtcManager* manager)

%3% s%]! <%M% s%H% b%8% e! <%k=i4 |2=4X?t

6.11.3 %3% s%9%H% i%/% ?\$H%G%9%H% i%/%?

6.11.3.1 RTM::RtcManager::RtcManager (int *argc*, char ** *argv*)

RtcManager(p. 157) %/%i%9%3% s%9%H% i%/%?.

DL> 03% ^%s% I% i% \$%s0 z?t\$ r0 z?t\$H\$ 7\$F\$H\$k! #

6.11.3.2 virtual RTM::RtcManager::~~RtcManager () [virtual]

RtcManager(p. 157) %/%i%9%G%9%H% i%/%?.

6.11.4 4X?t

6.11.4.1 bool RTM::RtcManager::activateManager ()

%^M! <%8% c%5! <%P% s%H\$N% "%/%F% #V2=

6.11.4.2 std::string RTM::RtcManager::bindInOut (RTCBase_ptr *comp_in*, const std::string & *inp_name*, RTCBase_ptr *comp_out*, const std::string & *outp_name*, RTM::SubscriptionType *sub_type* = RTM::OPS_NEW)

InPort \$H OutPort \$r@ \B3.

6.11.4.3 `std::string RTM::RtcManager::bindInOutByName (const
std::string & comp_name_in, const std::string & inp_name, const
std::string & comp_name_out, const std::string & outp_name,
RTM::SubscriptionType sub_type = RTM::OPS_NEW)`

InPort \$H OutPort \$rL>A0\$K\$h\$j@ \B3

6.11.4.4 `void RTM::RtcManager::cleanupComponent (const string &
instance_name, const string & category_name)`

%3%\$%!<%M%\$%H: o=|\$N\$?\$a\$N=hM}

6.11.4.5 `int RTM::RtcManager::close (unsigned long flags)`

6.11.4.6 `virtual RtmRes RTM::RtcManager::command (const char * cmd,
CORBA::String_out ret) [virtual]`

[CORBA interface] 4J0W%\$%\$%?%W%j%?

%^%M!<%8%\$N4J0W%\$%\$%?%W%j%?%3%^%\$%I\$N< BT

6.11.4.7 `bool RTM::RtcManager::commandListCmd (const vector< string > &
cmd, vector< string > & retval)`

6.11.4.8 `virtual RTCBaseList* RTM::RtcManager::component_list ()
[virtual]`

[CORBA interface] %3%\$%!<%M%\$%H%j%9%H\$N< H@

%3%\$%!<%M%\$%H\$N%j%9%H\$r< H@9\$K

6.11.4.9 `virtual RTCBase_ptr RTM::RtcManager::create_component (const
char * module_name, const char * category_name, CORBA::String_out
instance_name) [virtual]`

[CORBA interface] %3%\$%!<%M%\$%H\$N@8@.

%3%\$%!<%M%\$%H\$N%\$%\$%9%?%\$9\$r@8@.\$9\$K

0z?t:

-4pt *comp_name* %3%\$%!<%M%\$%H%b%8%e!<%kL>

comp_name %\$%\$%9%?%\$9L> (LaCM)

6.11.4.10 `bool RTM::RtcManager::createCommand (string cmd,
boost::function2< bool, vector< string > &, vector< string > & >
func)`

4J0W%\$%\$% ?%W% j% ?%3% ^%\$% I\$NEFO?

6.11.4.11 `RtcBase* RTM::RtcManager::createComponent (const string &
module_name, const string & category_name)`

%3%\$%]! <%M%\$%H%8% .

6.11.4.12 `RtcBase* RTM::RtcManager::createComponent (const string &
module_name, const string & category_name, string & comp_name)`

%3%\$%]! <%M%\$%H%8% .

6.11.4.13 `bool RTM::RtcManager::createComponentCmd (const vector<
string > & cmd, vector< string > & retval)`

6.11.4.14 `virtual RtmRes RTM::RtcManager::delete_component (const char *
instance_name, const char * category_name) [virtual]`

[CORBA interface] %3%\$%]! <%M%\$%H\$N: O= |

%3%\$%]! <%M%\$%H\$N%\$%\$%9% ?%\$%9\$r: O= |\$9\$k

0z?t:

-4pt *instance_name* %\$%\$%9% ?%\$%9L>

category_name %+F%4% jL>

6.11.4.15 `virtual RTCFactoryList* RTM::RtcManager::factory_list ()
[virtual]`

[CORBA interface] %3%\$%]! <%M%\$%H Factory %j%9%H\$N< F@

%3%\$%]! <%M%\$%H Factory \$N%j%9%H\$r< F@9\$k

6.11.4.16 `std::vector<RTCBase_ptr> RTM::RtcManager::findComponents
(const string & comp_name)`

%3%\$%]! <%M%\$%H8 !:w

6.11.4.17 RtcConfig& RTM::RtcManager::getConfig () [inline]

6.11.4.18 RtcLogbuf& RTM::RtcManager::getLogbuf () [inline]

6.11.4.19 CORBA::ORB_var RTM::RtcManager::getORB ()

ORB \$N%]%\$%s% ?\$r< B@

6.11.4.20 PortableServer::POA_var RTM::RtcManager::getPOA ()

POA \$N%]%\$%s% ?\$r< B@

6.11.4.21 void RTM::RtcManager::initManager ()

% ^%M! <% 8% c\$N=i4 |2=

6.11.4.22 void RTM::RtcManager::initModuleProc (RtcModuleInitProc *proc*)

%b% 8%e! <%k=i4 |2=%k! <%A% s\$N< BT

6.11.4.23 bool RTM::RtcManager::listComponent (const vector< string > & *cmd*, vector< string > & *retval*)

6.11.4.24 bool RTM::RtcManager::listModule (const vector< string > & *cmd*, vector< string > & *retval*)

6.11.4.25 virtual RtmRes RTM::RtcManager::load (const char * *pathname*, const char * *initfunc*) [virtual]

[CORBA interface] %b% 8%e! <%k\$N% m! <%I

%3% s%]! <%M% s%H\$N%b% 8%e! <%k\$ r% m! <%I\$ 7\$F=i4 |2=4X? t\$ r< BT\$ 9\$ k! #

0 z? t:

-4pt *pathname* %3% s%]! <%M% s%H%b% 8%e! <%k%U% !%\$%kL>

initfunc =i4 |2=4X? tL>

6.11.4.26 bool RTM::RtcManager::loadCmd (const vector< string > & *cmd*, vector< string > & *retval*)

6.11.4.27 int RTM::RtcManager::open (void * *args*)

% ^%M! <% 8% c% ?% 9% /\$ r% 9% ?! <%H\$ 5\$;\$ k

6.11.4.28 `bool RTM::RtcManager::registerComponent (RtcFactoryBase *
factory)`

%3%S%]! <%M% S%H%U% !%/%H% j\$NEFO?

6.11.4.29 `bool RTM::RtcManager::registerComponent (RtcModuleProfile &
profile, RtcNewFunc new_func, RtcDeleteFunc delete_func)`

%3%S%]! <%M% S%H%U% !%/%H% j\$NEFO?

6.11.4.30 `void RTM::RtcManager::runManager ()`

%^%M! <%8% c\$N< BT

6.11.4.31 `void RTM::RtcManager::runManagerNoBlocking ()`

%^%M! <%8% c\$N< BT(HS%V% m% C%/%b! <%I)

6.11.4.32 `void RTM::RtcManager::shutdown ()`

6.11.4.33 `int RTM::RtcManager::svc (void)`

%5! <%S% 9\$N% 9%1% C% I4X?t

6.11.4.34 `virtual RtmRes RTM::RtcManager::unload (const char * pathname)
[virtual]`

[CORBA interface] %b%8%e! <%k\$N% "%S%m! <%I

%3%S%]! <%M% S%H\$N%b%8%e! <%k\$r% "%S%m! <%I\$9\$k

0z?t:

-4pt *pathnae* %3%S%]! <%M% S%H%b%8%e! <%k\$N%U% !%\$%kL>

6.11.4.35 `bool RTM::RtcManager::unloadCmd (const vector< string > & cmd,
vector< string > & retval)`

6.11.5 JQ?t

6.11.5.1 `ComponentMap RTM::RtcManager::m_Components`

%3%S%]! <%M% S%H% \$%S%9% ?%S%9%G! <%?%Y! <%9% ^%C%W

`m_Components.map[_category_name][_instance_name]`

6.11.5.2 RtcLogbuf RTM::RtcManager::m_Logbuf

%n%,!<%P%C%U%!

6.11.5.3 TimedString RTM::RtcManager::m_LoggerOut**6.11.5.4 string RTM::RtcManager::m_ManagerName**

%^%M!<%8%cl>

6.11.5.5 RtcMedLogbuf RTM::RtcManager::m_MedLogbuf

%n%,!<Cg2p%P%C%U%!

6.11.5.6 LogEmitter* RTM::RtcManager::m_pLogEmitter**6.11.5.7 LogOutPort* RTM::RtcManager::m_pLoggerOutPort****6.11.5.8 RTCBase_var RTM::RtcManager::m_pMasterLogger****6.11.5.9 RtcLogStream RTM::RtcManager::rtcout**

%n%,!<%9%H%j!<%'

\$3\$N%/%i%9\$N@bL@\$(O< \$N%U%!%\$%k\$+\$i@8@.\$5\$1\$^\$7\$?:

- RtcManager.h

6.12 %/%i%9 RTM::RtcConfig

RtcManager(p. 157) %3%S%U%#% .%e%1! <%7%g%S%/%i%9.

#include <RtcConfig.h>

Public %a%=%C%I

- **RtcConfig** ()
RtcConfig(p. 166) %/%i%9%3%S%9%H%i%/%?.
- **RtcConfig** (int argc, char **argv)
RtcConfig(p. 166) %/%i%9%3%S%9%H%i%/%?.
- virtual ~**RtcConfig** ()
RtcConfig(p. 166) %/%i%9%C%9%H%i%/%?.
- bool **initConfig** (int argc, char **argv)
RtcConfig(p. 166) %/%i%9\$N=i4|2=.
- char ** **getOrbInitArgv** () const
ORB_init() \$KEQ\$90z?t\$r<hF@9\$9\$k.
- int **getOrbInitArgc** () const
ORB_init() \$KEQ\$90z?t\$N?t\$r<hF@9\$9\$k.
- string **getNameServer** () const
%M! <% '5! <%FL>\$r<hF@
- list< string > & **getComponentLoadPath** ()
%3%S%]! <%M%S%H% m! <%I%Q%9\$r<hF@
- string **getBinName** () const
8=:_\$N<B9T%U% !%\$%kL>\$r<hF@
- string **getOSname** () const
8=:_\$NOSL>\$r<hF@
- string **getHostname** () const
8=:_\$NhostL>\$r<hF@
- string **getOSrelease** () const
8=:_\$NOS release level \$r<hF@
- string **getOSversion** () const
8=:_\$NOS version \$r<hF@
- string **getArch** () const

8=:_\$N *machien architecture* \$r<hF@

- string **getPid** () const

8=:_\$N%W%#%;%9 *ID* \$r<hF@

- string **getLogFileName** ()
- string **getErrorLogFileName** ()
- int **getLogLevel** ()
- int **getLogLock** ()
- std::string **getLogTimeFormat** ()

Protected %a%=%C%I

- bool **parseCommandArgs** (int argc, char **argv)

%3% ^%s%I%i%\$%s0z?t\$r%Q! <%9\$9\$k

- bool **findConfigFile** ()

%3%s%U%#%.%e%l! <%7%g%s%U%!%\$%k\$r%G%U%)%k%F%Q%9\$+\$iC5\$9

- bool **parseConfigFile** ()

%3%s%U%#%.%e%l! <%7%g%s%U%!%\$%k\$r%Q! <%9\$9\$k

- bool **collectSysInfo** ()

%7%9%F%'>pJ s\$r<hF@ \$9\$k

- void **printUsage** (char *arg)

%X%k%W\$rI=< (\$9\$k

- void **argsToArgv** ()

0z?t7A<0\$rJQ49\$9\$k

- bool **fileExist** (const char *filename)

%U%!%\$%kB8:_%A% %C%/

- bool **split** (const string &input, const string &delimiter, list< string > &results)

J8; zNs\$NJ,3d

6.12.1 @hL@

RtcManager(p. 157) %3%s%U%#%.%e%l! <%7%g%s%/%i%9.

%3%s%U%#%.%e%l! <%7%g%s%U%!%\$%k\$r%F I\$ _9~\$ _**RtcManager**(p. 157) \$N%3%s%U%#%.%e%l! <%7%g
%s\$r9I\$&! #

6.12.2 %3%s%9%H%i%/% ?\$H%G%9%H%i%/%?

6.12.2.1 RTM::RtcConfig::RtcConfig () [inline]

RtcConfig(p. 166) %/%i%9%3%s%9%H%i%/%?.

RtcConfig(p. 166) %/%i%9\$N%3%s%9%H%i%/%?! #

6.12.2.2 RTM::RtcConfig::RtcConfig (int *argc*, char ** *argv*)

RtcConfig(p. 166) %/%i%9%3%s%9%H%i%/%?.

RtcConfig(p. 166) %/%i%9\$N%3%s%9%H%i%/%?! #

0z?t:

-4pt *argc* %3%^%s%I%i%\$%s0z?t\$N?t

argv %3%^%s%I%i%\$%s0z?t\$NG [Ns

6.12.2.3 virtual RTM::RtcConfig::~~RtcConfig () [virtual]

RtcConfig(p. 166) %/%i%9%G%9%H%i%/%?.

6.12.3 4X?t

6.12.3.1 void RTM::RtcConfig::argsToArgv () [protected]

0z?t7A< 0rJQ49\$9\$k

6.12.3.2 bool RTM::RtcConfig::collectSysInfo () [protected]

%7%9%F% '> p\$sr< 00\$9\$k

6.12.3.3 bool RTM::RtcConfig::fileExist (const char * *filename*) [protected]

%U% !%\$%kB8:_%A% %C%/

6.12.3.4 bool RTM::RtcConfig::findConfigFile () [protected]

%3%s%U% #. %e! ! <%7%g% s%U% !%\$%k\$ r%G%U%)%k%H%Q%9\$+\$ iC5\$9

6.12.3.5 string RTM::RtcConfig::getArch () const [inline]

8=:_\$Nmachien architecture \$r< 00

6.12.3.6 string RTM::RtcConfig::getBinName () const [inline]

```
8=:_$_N< BT%U% !%$%kL>$r<   
```

6.12.3.7 list<string>& RTM::RtcConfig::getComponentLoadPath () [inline]

```
%3%s% ]! <%M% s%H% m! <% I%Q% 9$r<   
```

```
%3%s%U% #%.%e%l! <% 7%g% s%U% !%$%k$ +$ iF @ $ ?%3%s% ]! <%M% s%H% m! <% I%Q% 9$r <   $ 9$k! #
```

6.12.3.8 string RTM::RtcConfig::getErrorLogFileName ()**6.12.3.9 string RTM::RtcConfig::getHostname () const [inline]**

```
8=:_$_Nhost L>$r<   
```

6.12.3.10 string RTM::RtcConfig::getLogFileName ()**6.12.3.11 int RTM::RtcConfig::getLogLevel ()****6.12.3.12 int RTM::RtcConfig::getLogLock ()****6.12.3.13 std::string RTM::RtcConfig::getLogTimeFormat ()****6.12.3.14 string RTM::RtcConfig::getNameServer () const [inline]**

```
%M! <% '%5! <%PL>$r<   
```

```
%3%s%U% #%.%e%l! <% 7%g% s%U% !%$%k$ +$ iF @ $ ?%M! <% '%5! <%PL>$r<   $ 9$k! #
```

6.12.3.15 int RTM::RtcConfig::getOrbInitArgc () const [inline]

```
ORB_init() $KEO$ 90 z?t$N?t$r<   $ 9$k.
```

```
ORB_init() $KEO$ 90 z?t$N?t$r<   $ 9$k! #
```

6.12.3.16 char RTM::RtcConfig::getOrbInitArgv () const [inline]**

```
ORB_init() $KEO$ 90 z?t$r<   $ 9$k.
```

```
%3%s%U% #%.%e%l! <% 7%g% s%U% !%$%k$ +$ iF @ $ ?%3%s%U% #%.%e%l! <% 7%g% s> p s$Nfb ORB $N=i4 |2=
$KI ,MW$ J> p s$r ORB_init() $KEO$ 90 z?t$H$ 7$F<   $ 9$k! #
```

6.12.3.17 string RTM::RtcConfig::getOSname () const [inline]

```
8=:_$_NOS L>$r<   
```

6.12.3.18 string RTM::RtcConfig::getOSrelease () const [inline]

8=:_\$N OS release level \$r< Ǝ@

6.12.3.19 string RTM::RtcConfig::getOSversion () const [inline]

8=:_\$N OS version \$r< Ǝ@

6.12.3.20 string RTM::RtcConfig::getPid () const [inline]

8=:_\$N%W%rn%;%9ID \$r< Ǝ@

6.12.3.21 bool RTM::RtcConfig::initConfig (int *argc*, char ** *argv*)

RtcConfig(p.166) %/%i%9\$N=i4 |2=

RtcConfig(p.166) %/%i%9\$r%3%^%s%I%i%\$%s0z?t\$G=i4 |2=\$9\$k

0z?t:

-4pt *argc* %3%^%s%I%i%\$%s0z?t\$N?t

argv %3%^%s%I%i%\$%s0z?t\$NG [Ns

6.12.3.22 bool RTM::RtcConfig::parseCommandArgs (int *argc*, char ** *argv*)
[protected]

%3%^%s%I%i%\$%s0z?t\$r%Q! <%9\$9\$k

6.12.3.23 bool RTM::RtcConfig::parseConfigFile () [protected]

%3\$s%U%#%.%e!l! <%7%g%s%U% !%\$%k\$r%Q! <%9\$9\$k

6.12.3.24 void RTM::RtcConfig::printUsage (char * *arg*) [protected]

%X%k%W\$rI≡ \$9\$k

6.12.3.25 bool RTM::RtcConfig::split (const string & *input*, const string &
delimiter, list< string > & *results*) [protected]

J8; 𐀀s\$NJ,3d

\$3\$N%/%i%9\$N%bL@Q< \$N%U% !%\$%k\$+\$i@8@.\$5\$1\$^\$7\$?:

- RtcConfig.h

6.13 6.13 RTM::RtcNaming

CORBA Naming Service 6.13.1

```
#include <RtcNaming.h>
```

Public 6.13.1

- **RtcNaming** ()
RtcNaming(p. 171) 6.13.1
- **RtcNaming** (CORBA::ORB_ptr orb)
RtcNaming(p. 171) 6.13.1
- **~RtcNaming** ()
RtcNaming(p. 171) 6.13.1
- **bool initNaming** (const CORBA::ORB_ptr orb)
RtcNaming(p. 171) 6.13.1
- **CosNaming::NamingContextExt_var createContext** (CosNaming::NamingContextExt_var context, const std::string &id, const std::string &kind)
6.13.1
- **bool createHostContext** (const std::string &id)
6.13.1
- **bool createManagerContext** (const std::string &id)
6.13.1
- **bool createCategoryContext** (const std::string &category)
6.13.1
- **bool createModuleContext** (const std::string &module, const std::string &category)
6.13.1
- **bool bindObject** (CosNaming::NamingContextExt_var context, const std::string &id, const std::string &kind, CORBA::Object_ptr obj)
6.13.1
- **bool bindObjectByFullPath** (const std::string &path, CORBA::Object_ptr obj)
6.13.1
- **bool bindComponent** (const std::string &component, const std::string &module, const std::string &category, CORBA::Object_ptr obj)
6.13.1

- bool **bindManager** (const std::string &id, CORBA::Object_ptr obj)
% ^%M! <%8%ç%N%F%\$%s%I
- bool **destroyHostContext** ()
<+J,\$N% [%9%H%3%s%F%-9%H\$N: 0= |
- bool **destroyManagerContext** ()
<+J,\$N% ^%M! <%8%ç%3%s%F%-9%H\$N: 0= |
- bool **destroyCategoryContext** (const std::string &id)
%+%F%4%j%3%s%F%-9%H\$N: 0= |
- bool **destroyModuleContext** (const std::string &module, const std::string &category)
%b%8%e! <%k%3%s%F%-9%H\$N: 0= |
- bool **unbindObject** (CosNaming::NamingContextExt_var context, const std::string &id, const std::string &kind)
%*%V%8%'%/%H\$N% "%s%P%\$%s%I
- bool **unbindObjectByFullPath** (const std::string &path)
%*%V%8%'%/%H\$ r%U%k%Q%9; XD j\$G% "%s%P%\$%s%I
- bool **unbindLocalComponent** (const std::string category, const std::string module, const std::string instance)
%3%s%]! <%M% s%H%*%V%8%'%/%H\$ r% "%s%P%\$%s%I
- bool **findHostContext** (const std::string &id_seq, **ContextList** &context)
% [%9%H%3%s%F%-9%H\$N8 !: w
- bool **findCategoryContext** (const std::string &id_seq, **ContextList** &context)
%+%F%4%j%3%s%F%-9%H\$N8 !: w
- bool **findModuleContext** (const std::string &id_seq, **ContextList** &context)
%b%8%e! <%k%3%s%F%-9%H\$N8 !: w
- bool **findManagerContext** (const std::string &id_seq, **ContextList** &context)
% ^%M! <%8%ç%3%s%F%-9%H\$N8 !: w
- bool **findManager** (std::string &id, **ObjectList** &objects)
% ^%M! <%8%ç%*%V%8%'%/%H%j%U%!%l%s%9\$N8 !: w! &<hF@
- bool **findComponents** (const std::string &id_seq, **ObjectList** &objects)
%3%s%]! <%M% s%H%*%V%8%'%/%H%j%U%!%l%s%9\$N8 !: w! &<hF@

Protected %a%=%C%I

- **bool destroyRecursive** (CosNaming::NamingContextExt_var context)
%M! <%_ %s%0%3% s%F%-%9%H\$N: F5 "E *: o= |
- **void findObjectsRecursive** (CosNaming::NamingContextExt_ptr context, const std::string &path, **ObjectList** &obj)
% *%V%8% '%/%H% j%U% !%l% s%9\$r: F5 "E *\$K<hF@
- **void findContextRecursive** (CosNaming::NamingContextExt_var context, const std::string &path, **ContextList** &context_list)
%M! <%_ %s%0%3% s%F%-%9%H\$r: F5 "E *\$K<hF@
- **void bindObjectRecursive** (CosNaming::NamingContextExt_var context, const std::string &path, CORBA::Object_ptr obj)
%3% s%F%-%9%H! &% *%V%8% '%/%H\$r: F5 "E *\$K%P%\$% s%I

6.13.1 @bL@

CORBA Naming Service %"/%;%9%X%k%Q! <%/%i%9.

6.13.2 %3% s%9%H%i%/% ?\$H%G%9%H%i%/% ?**6.13.2.1** RTM::RtcNaming::RtcNaming () [inline]

RtcNaming(p. 171) %/%i%9%3% s%9%H%i%/% ?.

6.13.2.2 RTM::RtcNaming::RtcNaming (CORBA::ORB_ptr orb) [inline]

RtcNaming(p. 171) %/%i%9%3% s%9%H%i%/% ?.

6.13.2.3 RTM::RtcNaming::~~RtcNaming ()

RtcNaming(p. 171) %/%i%9%G%9%H%i%/% ?.

6.13.3 4X?t

6.13.3.1 **bool** RTM::RtcNaming::bindComponent (const std::string &
component, const std::string & *module*, const std::string & *category*,
CORBA::Object_ptr *obj*)

%3% s%]! <%M% s%H\$N%P%\$% s%I

%*%V%8%'%/%H\$r; 0j\$7\$?%3%\$F%-%9%H2<\$K%P%\$%\$%I

0z?t:

-4pt **id** %3%\$%!<%M%\$%H\$NID

category %3%\$%!<%M%\$%H\$N%+%F%4%j

obj %3%\$%!<%M%\$%H\$N%*%V%8%'%/%H%j%U%!%l%9

6.13.3.2 bool RTM::RtcNaming::bindManager (const std::string & *id*, CORBA::Object_ptr *obj*)

%^%M!<%8%ç\$N%P%\$%\$%I

%^%M!<%8%ç\$r; 0j\$7\$?%3%\$F%-%9%H2<\$K%P%\$%\$%I

0z?t:

-4pt **id** %^%M!<%8%çL>

obj %^%M!<%8%ç\$N%*%V%8%'%/%H%j%U%!%l%9

6.13.3.3 bool RTM::RtcNaming::bindObject (CosNaming::NamingContextExt_var *context*, const std::string & *id*, const std::string & *kind*, CORBA::Object_ptr *obj*)

%*%V%8%'%/%H\$N%P%\$%\$%I

%*%V%8%'%/%H\$r; 0j\$7\$?%3%\$F%-%9%H2<\$K%P%\$%\$%I

0z?t:

-4pt **context** %*%V%8%'%/%H\$r%P%\$%\$%I\$9\$k%3%\$F%-%9%H

id %*%V%8%'%/%HID

kind %*%V%8%'%/%HKIND

obj %P%\$%\$%I\$9\$k%*%V%8%'%/%H\$N%*%V%8%'%/%H%j%U%!%l%9

6.13.3.4 bool RTM::RtcNaming::bindObjectByFullPath (const std::string & *path*, CORBA::Object_ptr *obj*)

%*%V%8%'%/%H\$r%U%k%Q%9; 0j\$G%P%\$%\$%I

%*%V%8%'%/%H\$r; 0j%U%k%Q%9\$K=>\$C\$F%P%\$%\$%I\$9\$k!#

0z?t:

-4pt **path** %*%V%8%'%/%H\$r%P%\$%\$%I\$9\$k%M!<_%\$0%D%j!<\$N%U%k%Q%9

obj %P%\$%\$%I\$9\$k%*%V%8%'%/%H\$N%*%V%8%'%/%H%j%U%!%l%9

6.13.3.5 void RTM::RtcNaming::bindObjectRecursive (CosNaming::NamingContextExt_var *context*, const std::string & *path*, CORBA::Object_ptr *obj*) [protected]

```
%3s%F%-9%H! &%*%V%8%'/%H$r:F5  E*$K%F%$%S%I
```

```
0z?t:
```

```
-4pt      context %F%$%S%I$r3+;  9$K%3s%F%-9%H
```

```
    path 8!:w%Q%9
```

```
    obj %*%V%8%'/%H%j%U%!%l%S%9
```

6.13.3.6 bool RTM::RtcNaming::createCategoryContext (const std::string & *category*)

```
%+%F%4%j%3s%F%-9%H$N@8@.
```

```
%+%F%4%j%3s%F%-9%H%l%Y%k$K% ^%M! <%8%cl>$N%3s%F%-9%H$r@8@.$9$k
```

```
0z?t:
```

```
-4pt      id %3s%F%-9%HL>$H$7$FM?$ ($k%+%F%4%jL>
```

6.13.3.7 CosNaming::NamingContextExt_var RTM::RtcNaming::createContext (CosNaming::NamingContextExt_var *context*, const std::string & *id*, const std::string & *kind*)

```
%M! <_%s%0%3s%F%-9%H$N@8@.
```

```
M?$ ($i$l$?%M! <_%s%0%3s%F%-9%H>  $K id,kind $N%3s%F%-9%H$r@8@.
```

```
0z?t:
```

```
-4pt      context %3s%F%-9%H$r@8@.$9$k?F%M! <_%s%0%3s%F%-9%H
```

```
    id %3s%F%-9%H ID
```

```
    kind %3s%F%-9%H KIND
```

6.13.3.8 bool RTM::RtcNaming::createHostContext (const std::string & *id*)

```
% [%9%H%3s%F%-9%H$N@8@.
```

```
% [%9%H%3s%F%-9%H%l%Y%k$K% [%9%HL>$N%3s%F%-9%H$r@8@.$9$k
```

```
0z?t:
```

```
-4pt      id %3s%F%-9%HL>$H$7$FM?$ ($k% [%9%HL>
```

6.13.3.9 bool RTM::RtcNaming::createManagerContext (const std::string & *id*)

%^%M! <%8% c%3% s%F%-%9%H\$N@8@ .

%^%M! <%8% c%3% s%F%-%9%H% 1%Y%k\$K% ^%M! <%8% cL>\$N%3% s%F%-%9%H\$ r@8@ .,\$9\$k

0z?t:

-4pt ***id*** %3% s%F%-%9%HL>\$H\$ 7\$FM?\$ (\$k% ^%M! <%8% cL>

6.13.3.10 bool RTM::RtcNaming::createModuleContext (const std::string & *module*, const std::string & *category*)

%b%8%e! <%k%3% s%F%-%9%H\$N@8@ .

%b%8%e! <%k%3% s%F%-%9%H% 1%Y%k\$K% ^%M! <%8% cL>\$N%3% s%F%-%9%H\$ r@8@ .,\$9\$k

0z?t:

-4pt ***module*** %3% s%F%-%9%HL>\$H\$ 7\$FM?\$ (\$k%b%8%e! <%kL>

category %b%8%e! <%k%3% s%F%-%9%H\$r: n@ .,\$9\$k%+%F%4%jL>

6.13.3.11 bool RTM::RtcNaming::destroyCategoryContext (const std::string & *id*)

%+%F%4%j%3% s%F%-%9%H\$N: o= |

0z?t:

-4pt ***id*** %+%F%4%jL>

6.13.3.12 bool RTM::RtcNaming::destroyHostContext ()

< 𐀀,\$N% [%9%H%3% s%F%-%9%H\$N: o= |

6.13.3.13 bool RTM::RtcNaming::destroyManagerContext ()

< 𐀀,\$N% ^%M! <%8% c%3% s%F%-%9%H\$N: o= |

6.13.3.14 bool RTM::RtcNaming::destroyModuleContext (const std::string & *module*, const std::string & *category*)

%b%8%e! <%k%3% s%F%-%9%H\$N: o= |

0z?t:

-4pt ***module*** %b%8%e! <%kL>

category %+%F%4%jL>

6.13.3.15 bool RTM::RtcNaming::destroyRecursive (CosNaming::Naming-ContextExt_var *context*) [protected]

```
%M! <%_s%0%3%s%F%-9%H$N:F5  E*:o= |
0 z?t:
-4pt      context :o= |$r3+; 9$ k%3%s%F%-9%H
```

6.13.3.16 bool RTM::RtcNaming::findCategoryContext (const std::string & *id_seq*, ContextList & *context*)

```
%+%F%4%j%3%s%F%-9%H$N8!:w
0 z?t:
-4pt      id_seq 8!:w$9$ kID Ns
      context %3%s%F%-9%HNs (La$ jCM)
```

6.13.3.17 bool RTM::RtcNaming::findComponents (const std::string & *id_seq*, ObjectList & *objects*)

```
%3%s%]! <%M% s%H% *%V%8% '%/%H% j%U% !%1% s%9$N8!:w! &<  E@
0 z?t:
-4pt      id_seq 8!:w$9$ kID Ns
      object %*%V%8% '%/%H% j%U% !%1% s%9Ns (La$ jCM)
```

6.13.3.18 void RTM::RtcNaming::findContextRecursive (CosNaming::Naming-ContextExt_var *context*, const std::string & *path*, ContextList & *context_list*) [protected]

```
%M! <%_s%0%3%s%F%-9%H$r:F5  E*$K<  E@
0 z?t:
-4pt      context 8!:w$r3+; 9$ k%3%s%F%-9%H
      path 8!:w%Q%9
      context_list %3%s%F%-9%HNs (La$ jCM)
```

6.13.3.19 bool RTM::RtcNaming::findHostContext (const std::string & *id_seq*, ContextList & *context*)

```
% [%9%H%3%s%F%-9%H$N8!:w
```

0z?t:

-4pt ***id_seq*** 8!:w\$9\$kID Ns
context %3%S%F%-9%HNs (La\$ jCM)

6.13.3.20 bool RTM::RtcNaming::findManager (std::string & *id*, ObjectList & *objects*)

%^%M! <%8%C% *%V%8% '%/%H% j%U% !%l%S%9\$N8 !:w! &< E@

0z?t:

-4pt ***id_seq*** 8!:w\$9\$kID Ns
object %*%V%8% '%/%H% j%U% !%l%S%9Ns (La\$ jCM)

6.13.3.21 bool RTM::RtcNaming::findManagerContext (const std::string & *id_seq*, ContextList & *context*)

%^%M! <%8%C% 3%S%F%-9%H\$N8 !:w

0z?t:

-4pt ***id_seq*** 8!:w\$9\$kID Ns
context %3%S%F%-9%HNs (La\$ jCM)

6.13.3.22 bool RTM::RtcNaming::findModuleContext (const std::string & *id_seq*, ContextList & *context*)

%b%8%e! <%k%3%S%F%-9%H\$N8 !:w

0z?t:

-4pt ***id_seq*** 8!:w\$9\$kID Ns
context %3%S%F%-9%HNs (La\$ jCM)

6.13.3.23 void RTM::RtcNaming::findObjectsRecursive (CosNaming::Naming-ContextExt_ptr *context*, const std::string & *path*, ObjectList & *obj*) [protected]

%*%V%8% '%/%H% j%U% !%l%S%9\$r: F5 E*\$K< E@

0z?t:

-4pt ***context*** 8!:w\$r3+; Q9\$k%3%S%F%-9%H
path 8!:w%Q%9
obj %*%V%8% '%/%H% j%U% !%l%S%9Ns (La\$ jCM)

6.13.3.24 bool RTM::RtcNaming::initNaming (const CORBA::ORB_ptr orb)

RtcNaming(p. 171) %/%i%9%G%9%F%i%/%?.

0 z? t:

-4pt **orb** ORB \$X\$N%J%\$%\$%?

6.13.3.25 bool RTM::RtcNaming::unbindLocalComponent (const std::string category, const std::string module, const std::string instance)

%3%\$%J! <%M%\$%H%*%V%8%'/%H\$r%"%\$%P%\$%\$%I

Ev3 :RtcNaming %/%i%9\$G%P%\$%\$%I\$5\$1\$?%m%\$%0%M! <% '\$N%*%V%8%'/%H\$r%"%\$%P%\$%\$%I\$9\$k! #

0 z? t:

-4pt **category** %"%"\$%P%\$%\$%I\$9\$k%*%V%8%'/%H\$N%+%F%4%jL>

module %"%"\$%P%\$%\$%I\$9\$k%*%V%8%'/%H\$N%b%8%e! <%kL>

instance %"%"\$%P%\$%\$%I\$9\$k%*%V%8%'/%H\$N%\$%\$%9%?%\$%9L>

6.13.3.26 bool RTM::RtcNaming::unbindObject (CosNaming::Naming-ContextExt_var context, const std::string & id, const std::string & kind)

%*%V%8%'/%H\$N%"%\$%P%\$%\$%I

; Øj\$7\$?%3%\$%F%-9%H2 <\$N%*%V%8%'/%H\$r%"%\$%P%\$%\$%I

0 z? t:

-4pt **context** %*%V%8%'/%H\$r%P%\$%\$%I\$9\$k%3%\$%F%-9%H

id %*%V%8%'/%H ID

kind %*%V%8%'/%H KIND

6.13.3.27 bool RTM::RtcNaming::unbindObjectByFullPath (const std::string & path)

%*%V%8%'/%H\$r%U%k%Q%9; Øj\$G%"%\$%P%\$%\$%I

%*%V%8%'/%H\$r; Øj%U%k%Q%9\$K=>\$C\$F%"%\$%P%\$%\$%I\$9\$k! #

0 z? t:

-4pt **path** %"%"\$%P%\$%\$%I\$9\$k%*%V%8%'/%H\$N%U%k%Q%9

\$3\$N%/%i%9\$N%bL@ \$OK \$N%U%!%\$%k\$+\$i@8@.\$5\$1\$^\$7\$?

- RtcNaming.h

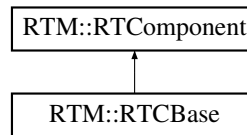
Bh7>0 OpenRTM IDL % j% U% !% 1% s% 9

7.1 % \$% s% ?% U% ' ! <% 9RTM::RTComponent

RTComponent(p. 181) % \$% s% ? ! <% U% ' ! <% 9.

```
import "RTComponent.idl";
```

```
RTM::RTComponent $ KBF$ 9$ k7Q> $ 0%i%U
```



Public 7?

- typedef short **ComponentState**

```
% 3% s% ] ! <% M% s% H$ N% " % /% F% # % S% F% # > uBV
```

Public % a% =% C% I

- **RtmRes rtc_start** () raises (IllegalTransition)

```
% 3% s% ] ! <% M% s% H$ N% " % /% F% # % V2 =
```

- **RtmRes rtc_stop** () raises (IllegalTransition)

```
% 3% s% ] ! <% M% s% H$ N% S% " % /% F% # % V2 =
```

- **RtmRes rtc_reset** () raises (IllegalTransition)

```
% 3% s% ] ! <% M% s% H$ N% j% ; % C% H
```

- **RtmRes rtc_exit** () raises (IllegalTransition)

```
% 3% s% ] ! <% M% s% H$ N% j% ; % C% H
```

- **RtmRes rtc_kill** ()

```
% 3% s% ] ! <% M% s% H$ N% / @ ) = *N ;
```

- **RtmRes rtc_worker** ()

```
% a% $% s% " % /% F% # % S% F% # $ N% a% =% C% I
```

- **InPort** **get_inport** (in string name) raises (NoSuchName)
InPort(p. ??) \$Nk hF @
- **OutPort** **get_outport** (in string name) raises (NoSuchName)
OutPort(p. 191) \$Nk hF @
- **RTCSERVICEPROFILELIST** **get_service_profiles** () raises (NotAvailable)
Return connector port object reference list.
- **RTCSERVICEPROFILE** **get_service_profile** (in string id) raises (InvalidParameter, InvalidReturnValue, NotAvailable)
- **RTCSERVICE** **get_service** (in string id) raises (InvalidParameter, InvalidReturnValue, NotAvailable)

Public JQ?t

- readonly attribute string **instance_id**
%3% s%]! <%M% s%H\$N% \$% s%9% ?% s%9 ID
- readonly attribute string **implementation_id**
%3% s%]! <%M% s%H\$N% \$% s%W% j% a% s%F! <%7% g% s ID
- readonly attribute string **description**
%3% s%]! <%M% s%H\$N% 3 MW
- readonly attribute string **version**
%3% s%]! <%M% s%H\$N% P! <%8% g% s
- readonly attribute string **maker**
%3% s%]! <%M% s%H\$N: n@ .<T
- readonly attribute string **category**
%3% s%]! <%M% s%H\$N% +%F% 4% j
- const **ComponentState** **RTC_UNKNOWN** = 0
UNKNOWN state.
- const **ComponentState** **RTC_BORN** = 1
BORN state.
- const **ComponentState** **RTC_INITIALIZING** = 2
INITIALIZING state.
- const **ComponentState** **RTC_READY** = 3
READY state.
- const **ComponentState** **RTC_STARTING** = 4

STARTING state.

- const **ComponentState** **RTC_ACTIVE** = 5
ACTIVE state.
- const **ComponentState** **RTC_STOPPING** = 6
STOPPING state.
- const **ComponentState** **RTC_ABORTING** = 7
ABORTING state.
- const **ComponentState** **RTC_ERROR** = 8
ERROR state.
- const **ComponentState** **RTC_FATAL_ERROR** = 9
FATAL_ERROR state.
- const **ComponentState** **RTC_EXITING** = 10
EXITING state.
- readonly attribute **OutPort** **rtc_state**
% "%/%F% #S%F% #9%F! <%?%9\$N OutPort \$N<hF@
- readonly attribute **InPortList** **inports**
InPortList \$N<hF@.
- readonly attribute **OutPortList** **outports**
OutPortList \$N<hF@.

7.1.1 @bL@

RTComponent(p. 181) %\$%S%?! <%U% '! <%9.

7.1.2 7?Dj5A

7.1.2.1 typedef short RTM::RTComponent::ComponentState

%3%S%]! <%M% S%H\$N% "%/%F% #S%F% #> BV

7.1.3 4X?t

7.1.3.1 InPort RTM::RTComponent::get_inport (in string *name*) raises (NoSuchName)

InPort(p. ??) \$N< hF@.

InPort(p. ??) \$N% *%V%8% '%/%H% j%U% !%1% s%9\$ r< E@ \$9\$ k! #

0 z? t:

-4pt *name* **InPort**(p. ??) L>

7.1.3.2 **OutPort** **RTM::RTComponent::get_outport** (in string *name*) raises (NoSuchName)

OutPort(p. 191) \$N< E@.

OutPort(p. 191) \$N% *%V%8% '%/%H% j%U% !%1% s%9\$ r< E@ \$9\$ k! #

0 z? t:

-4pt *name* **OutPort**(p. 191) L>

7.1.3.3 **RTCSERVICE** **RTM::RTComponent::get_service** (in string *id*) raises (InvalidParameter, InvalidReturnValue, NotAvailable)

7.1.3.4 **RTCSERVICEPROFILE** **RTM::RTComponent::get_service_profile** (in string *id*) raises (InvalidParameter, InvalidReturnValue, NotAvailable)

7.1.3.5 **RTCSERVICEPROFILELIST** **RTM::RTComponent::get_service_profiles** () raises (NotAvailable)

Return connector port object reference list.

7.1.3.6 **RtmRes** **RTM::RTComponent::rtc_exit** () raises (IllegalTransition)

%3% s%]! <%M% s%H\$N% j% ;%C%H

%3% s%]! <%M% s%H\$N> BV\$ r EXITING \$KA+0\ \$5\$;\$k! # EXITING > BV\$ KA+0\ \$7\$?%3% s%]! <%M
% s%H\$ CF sEY\$ HI |5 \$9\$ k\$ 3\$ H\$ J\$ / = *N ;\$9\$ k! #

7.1.3.7 **RtmRes** **RTM::RTComponent::rtc_kill** ()

%3% s%]! <%M% s%H\$N6 @) = *N ;

FATAL_ERROR > BV\$ N% 3% s%]! <%M% s%H\$ r EXITING \$KA+0\ \$5\$;\$k! # EXITING > BV\$ KA+0\
\$7\$?%3% s%]! <%M% s%H\$ CF sEY\$ HI |5 \$9\$ k\$ 3\$ H\$ J\$ / = *N ;\$9\$ k! #

7.1.3.8 **RtmRes** **RTM::RTComponent::rtc_reset** () raises (IllegalTransition)

%3% s%]! <%M% s%H\$N% j% ;%C%H

%3%\$%\$]! <%M%\$%H\$N> BV\$r ERROR \$+\$i INITIALIZE \$KA+0\\$5\$;\$k! #INITIALIZE 8e% (%i! <\$,\$J\$1\$1\$P\$9\$0\$K READY > BV\$KA+0\\$9\$k! # \$3\$N%*%Z%1! <%7%g%\$s\$rH/9T\$9\$k\$H\$-! "%3%\$%\$]! <%M%\$%H\$O ERROR > BV\$G\$J\$1\$1\$P \$J\$i\$J\$! #B>\$N> BV\$N> 9g\$K\$O **IllegalTransition**(p. 188) Nc3 0\$,H/@8\$9\$k! #

7.1.3.9 RtmRes RTM::RTComponent::rtc_start () raises (IllegalTransition)

%3%\$%\$]! <%M%\$%H\$N% "%/%F%#%V2=

%3%\$%\$]! <%M%\$%H\$N> BV\$r READY \$+\$i ACTIVE \$KA+0\\$5\$;\$k! # \$3\$N%*%Z%1! <%7%g%\$s\$rH/9T\$9\$k\$H\$-! "%3%\$%\$]! <%M%\$%H\$O READY > BV\$G\$J\$1\$1\$P \$J\$i\$J\$! #B>\$N> BV\$N> 9g\$K\$O **IllegalTransition**(p. 188) Nc3 0\$,H/@8\$9\$k! #

7.1.3.10 RtmRes RTM::RTComponent::rtc_stop () raises (IllegalTransition)

%3%\$%\$]! <%M%\$%H\$NH\$% "%/%F%#%V2=

%3%\$%\$]! <%M%\$%H\$N> BV\$r ACTIVE \$+\$i READY \$KA+0\\$5\$;\$k! # \$3\$N%*%Z%1! <%7%g%\$s\$rH/9T\$9\$k\$H\$-! "%3%\$%\$]! <%M%\$%H\$O ACTIVE > BV\$G\$J\$1\$1\$P \$J\$i\$J\$! #B>\$N> BV\$N> 9g\$K\$O **IllegalTransition**(p. 188) Nc3 0\$,H/@8\$9\$k! #

7.1.3.11 RtmRes RTM::RTComponent::rtc_worker ()

%a%\$%\$% "%/%F%#%S%F%#\$N%a%=%C%I

%3%\$%\$]! <%M%\$%H\$N% "%/%F%#%S%F%#\$NK\BN\$C\$3\$N%a%=%C%I\$r< 4|< BT\$9\$k\$3\$H\$K\$h\$j=hM}\$5\$1 \$k! #C1BN\$N%3%\$%\$]! <%M%\$%H\$G\$C'bltE*\$J%9%1%C\$I\$K\$h\$j\$3\$N%a%=%C%I\$r< 4|8F=P\$9\$k\$3\$H\$G=hM}\$r9T\$C\$F\$H\$K! # %9%1%C\$I\$rDd; 5\$;\$! "3 0I t\$+\$i\$3\$N%*%Z%1! <%7%g%\$s\$r8F\$S=P\$9\$3\$H\$K\$h\$j! "G\$ 0U\$N%?\$%\$_%\$%O\$G% "%/%F%#%S%F%#\$r< BT\$9\$k\$3\$H\$b=FMh\$k! #

7.1.4 JQ?t

7.1.4.1 readonly attribute string RTM::RTComponent::category

%3%\$%\$]! <%M%\$%H\$N%+%F%4%j

7.1.4.2 readonly attribute string RTM::RTComponent::description

%3%\$%\$]! <%M%\$%H\$NB 5MW

7.1.4.3 readonly attribute string RTM::RTComponent::implementation_id

%3%\$%\$]! <%M%\$%H\$N%\$%\$%W%j%a%\$%F! <%7%g%\$sID

7.1.4.4 readonly attribute InPortList RTM::RTComponent::inports

InPortList \$N< E@

InPort(p. ??) \$N% *%V%8% '%/%H% j%U% !%1%S%9\$N% j%9%H\$r< E@ \$9\$k! #

7.1.4.5 readonly attribute string RTM::RTComponent::instance_id

%3%S%]! <%M% S%H\$N% \$%S%9% ?%S%9ID

7.1.4.6 readonly attribute string RTM::RTComponent::maker

%3%S%]! <%M% S%H\$N: n@ .< T

7.1.4.7 readonly attribute OutPortList RTM::RTComponent::outports

OutPortList \$N< E@

OutPort(p. 191) \$N% *%V%8% '%/%H% j%U% !%1%S%9\$N% j%9%H\$r< E@ \$9\$k! #

7.1.4.8 const ComponentState RTM::RTComponent::RTC_ABORTING = 7

ABORTING state.

7.1.4.9 const ComponentState RTM::RTComponent::RTC_ACTIVE = 5

ACTIVE state.

7.1.4.10 const ComponentState RTM::RTComponent::RTC_BORN = 1

BORN state.

7.1.4.11 const ComponentState RTM::RTComponent::RTC_ERROR = 8

ERROR state.

7.1.4.12 const ComponentState RTM::RTComponent::RTC_EXITING = 10

EXITING state.

7.1.4.13 `const ComponentState RTM::RTComponent::RTC_FATAL_ERROR = 9`

FATAL_ERROR state.

7.1.4.14 `const ComponentState RTM::RTComponent::RTC_INITIALIZING = 2`

INITIALIZING state.

7.1.4.15 `const ComponentState RTM::RTComponent::RTC_READY = 3`

READY state.

7.1.4.16 `const ComponentState RTM::RTComponent::RTC_STARTING = 4`

STARTING state.

7.1.4.17 `readonly attribute OutPort RTM::RTComponent::rtc_state`

% "% /%F% # %S%F% # %9%F! <% ?% 9\$NOutPort \$N< Ǝ@

% "% /%F% # %S%F% # %9%F! <% ?% 9\$NOutPort \$N% *%V%8% '%/%H% j%U% !%1%S%9\$ r< Ǝ@ \$ 9\$ k! #

7.1.4.18 `const ComponentState RTM::RTComponent::RTC_STOPPING = 6`

STOPPING state.

7.1.4.19 `const ComponentState RTM::RTComponent::RTC_UNKNOWN = 0`

UNKNOWN state.

7.1.4.20 `readonly attribute string RTM::RTComponent::version`

%3%S%]! <%M% S%H\$N%P! <%8%g% s

\$3\$N%\$%S%?%U% '! <%9\$N@bL @ \$O< \$N%U% !%\$%k\$ +\$ i@8@ . \$5\$1\$ ^\$7\$?:

- RTComponent.idl

7.2 Nc30RTM::RTComponent::IllegalTransition

IT@5> BVA+0\Nc30.

```
import "RTComponent.idl";
```

7.2.1 @bL@

IT@5> BVA+0\Nc30.

\$3\$NNc30\$N@bL@<\$O< \$N%U% !%\$%k\$+\$i@8@.\$5\$1\$^\$7\$?.

- **RTComponent.idl**

7.3 Nc30RTM::RTComponent::NoSuchName

IT@5\$JL>A0; 8jNc30.

import "RTComponent.idl";

Public JQ?t

- string **name**

7.3.1 @bL@

IT@5\$JL>A0; 8jNc30.

L>A0; 8j\$GInPort/OutPort Ey\$r< 8@9\$k\$H\$-! "3 :Ev\$9\$kL>A0\$N %*%V%8%'%/H\$, \$J\$+\$C\$?! #

7.3.2 JQ?t

7.3.2.1 string RTM::RTComponent::NoSuchName::name

\$3\$NNc30\$N@bL@Q< \$N%U%!%\$%k\$+\$i@8@.\$5\$1\$^\$7\$?

- **RTComponent.idl**

7.4 9=B\$BN RTM::NamedValue

L>A0IU\$~JQ? tCM

```
import "RTMBase.idl";
```

Public JQ?t

- string **name**
Name of value.
- any **value**
Any value.
- short **flag**

7.4.1 @bL@

L>A0IU\$~JQ? tCM

G\$0U\$N7 ?\$NCM\$ rL>A0IU\$~\$ G3 JG<\$ 9\$ k9=B\$BN

7.4.2 JQ?t

7.4.2.1 short RTM::NamedValue::flag

7.4.2.2 string RTM::NamedValue::name

Name of value.

7.4.2.3 any RTM::NamedValue::value

Any value.

\$ 3\$N9=B\$BN\$N@bL@ \$OK \$N%U% !%\$%k\$+\$ i@ 8@ . \$ 5\$ 1\$ ^\$ 7\$?:

- RTMBase.idl

7.5 %\$%S%?%U% '! <%9RTM::OutPort

OutPort(p. 191) %\$%S%?! <%U% '! <%9.

import "RTCOutPort.idl";

Public %a%=%C%I

- any **get** ()
OutPort(p. 191) \$NCM\$r Any 7?\$G<hF@.

7.5.1 @bL@

OutPort(p. 191) %\$%S%?! <%U% '! <%9.

OutPort(p. 191) \$N%\$%S%?! <%U% '! <%9\$rDj5 A#

7.5.2 4X?t

7.5.2.1 any RTM::OutPort::get ()

OutPort(p. 191) \$NCM\$r Any 7?\$G< F@.

\$3\$N%\$%S%?%U% '! <%9\$N@bL@S O< \$N%U% !%\$%k\$+\$i@8@ . \$5\$1\$^\$7\$?:

- **RTCOutPort.idl**

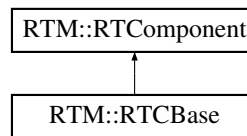
OpenRTM 3 HD IDL % j% U% !% l% s% 9

8.1 % \$% s% ?% U% ' ! <% 9 RTM::RTCBase

RTCBase(p. 193) % \$% s% ? ! <% U% ' ! <% 9.

```
import "RTCBase.idl";
```

```
RTM::RTCBase $KBP$9$k7Q> $0%i%U
```



Public 7?

- typedef short **ComponentState**

```
%3% s% ] ! <% M% s% H$N% " % /% F% # % S% F% # > uBV
```

Public % a% =% C% I

- **RtmRes rtc_ready_entry ()**

```
entry: ready() %a%=%C%I
```

- **RtmRes rtc_ready_do ()**

```
do: ready() %a%=%C%I
```

- **RtmRes rtc_ready_exit ()**

```
exit: ready() %a%=%C%I
```

- **RtmRes rtc_active_entry ()**

```
entry: active() %a%=%C%I
```

- **RtmRes rtc_active_do ()**

```
do: active() %a%=%C%I
```

- **RtmRes rtc_active_exit ()**

```
exit: active() %a%=%C%I
```

- **RtmRes rtc_error_entry ()**
entry: error() %a%=%C%I
- **RtmRes rtc_error_do ()**
do: error() %a%=%C%I
- **RtmRes rtc_error_exit ()**
exit: error() %a%=%C%I
- **RtmRes rtc_fatal_entry ()**
entry: fatal() %a%=%C%I
- **RtmRes rtc_fatal_do ()**
do: fatal() %a%=%C%I
- **RtmRes rtc_fatal_exit ()**
exit: fatal() %a%=%C%I
- **RtmRes rtc_init_entry ()**
entry: init() %a%=%C%I
- **RtmRes rtc_starting_entry ()**
entry: starting() %a%=%C%I
- **RtmRes rtc_stopping_entry ()**
entry: stopping() %a%=%C%I
- **RtmRes rtc_aborting_entry ()**
entry: aborting() %a%=%C%I
- **RtmRes rtc_exiting_entry ()**
entry: exiting() %a%=%C%I
- **RtmRes rtc_stop_thread ()**
%"/%F%#%S%F%#%9%1%C%I\$N%9%?!<%H
- **RtmRes rtc_start_thread ()**
%"/%F%#%S%F%#%9%1%C%I\$N%9%H%C%W
- **RtmRes rtc_set_parent (in RTCBase comp)**
?F%3%S%J!<%M%S%H\$r%;%C%H\$9\$k
- **RtmRes rtc_add_component (in RTCBase comp)**
;R%3%S%J!<%M%S%H\$rDI2C\$9\$k
- **RtmRes rtc_delete_component (in RTCBase comp)**
;R%3%S%J!<%M%S%H\$r:O=|9\$9\$k

- **RtmRes rtc_replace_component** (in **RTCBase** comp1, in **RTCBase** comp2)
; R% 3% s%]! <%M% s%H\$N=g=x\$ rF ~\$ lBX\$ (\$k
- **RtmRes rtc_replace_component_by_name** (in string name1, in string name2)
; R% 3% s%]! <%M% s%H\$N=g=x\$ rF ~\$ lBX\$ (\$k
- **RTCBaseList rtc_components** ()
; R% 3% s%]! <%M% s%H\$ r% j% 9%H\$H\$ 7\$F<hF @ \$ 9\$ k! #
- **RTCBase rtc_get_component** (in string name)
; R% 3% s%]! <%M% s%H\$ rL>A 0\$ r; XD j\$ 7\$F<hF @
- **RtmRes rtc_attach_inport** (in **InPort** in_port)
InPort \$ r% "% ?%C%A\$ 9\$ k.
- **RtmRes rtc_attach_inport_by_name** (in **RTCBase** comp, in string name)
InPort \$ r% "% ?%C%A\$ 9\$ k.
- **RtmRes rtc_detatch_inport** (in **InPort** in_port)
InPort \$ r% C% ?%C%A\$ 9\$ k.
- **RtmRes rtc_detatch_inport_by_name** (in string name)
InPort \$ r% C% ?%C%A\$ 9\$ k.
- **RtmRes rtc_attach_outport** (in **OutPort** out_port)
OutPort \$ r% "% ?%C%A\$ 9\$ k.
- **RtmRes rtc_attach_outport_by_name** (in **RTCBase** comp, in string name)
OutPort \$ r% "% ?%C%A\$ 9\$ k.
- **RtmRes rtc_detatch_outport** (in **OutPort** out_port)
OutPort \$ r% C% ?%C%A\$ 9\$ k.
- **RtmRes rtc_detatch_outport_by_name** (in string name)
OutPort \$ r% C% ?%C%A\$ 9\$ k.
- **RtmRes rtc_start** () raises (IllegalTransition)
% 3% s%]! <%M% s%H\$N% "% /%F% #V2=
- **RtmRes rtc_stop** () raises (IllegalTransition)
% 3% s%]! <%M% s%H\$NH s% "% /%F% #V2=
- **RtmRes rtc_reset** () raises (IllegalTransition)
% 3% s%]! <%M% s%H\$N% j% ;%C%H
- **RtmRes rtc_exit** () raises (IllegalTransition)
% 3% s%]! <%M% s%H\$N% j% ;%C%H

- **RtmRes rtc_kill ()**
%3%S%]! <%M% S%H\$N6 /@)= *N ;
- **RtmRes rtc_worker ()**
%a% \$%S% "% /%F% #%S%F% # \$N% a% =%C% I
- **InPort get_inport** (in string name) raises (NoSuchName)
InPort(p. ??) \$N<hF @.
- **OutPort get_outport** (in string name) raises (NoSuchName)
OutPort(p. 191) \$N<hF @.
- **RTCSERVICEPROFILELIST get_service_profiles ()** raises (NotAvailable)
Return connector port object reference list.
- **RTCSERVICEPROFILE get_service_profile** (in string id) raises (InvalidParameter, InvalidReturnValue, NotAvailable)
- **RTCSERVICE get_service** (in string id) raises (InvalidParameter, InvalidReturnValue, NotAvailable)

Public JQ?t

- readonly attribute RTCProfile **profile**
%3%S%]! <%M% S%H\$N%W% m%U% !% \$%k9 =B \$BN
- readonly attribute string **instance_id**
%3%S%]! <%M% S%H\$N% \$%S%9% ?%S%9 ID
- readonly attribute string **implementation_id**
%3%S%]! <%M% S%H\$N% \$%S%W% j%a%S%F! <% 7%g%S ID
- readonly attribute string **description**
%3%S%]! <%M% S%H\$N3 5MW
- readonly attribute string **version**
%3%S%]! <%M% S%H\$N%P! <%8%g%S
- readonly attribute string **maker**
%3%S%]! <%M% S%H\$N: n@ .<T
- readonly attribute string **category**
%3%S%]! <%M% S%H\$N% +%F%4% j
- const **ComponentState RTC_UNKNOWN** = 0
UNKNOWN state.
- const **ComponentState RTC_BORN** = 1

BORN state.

- const **ComponentState** RTC_INITIALIZING = 2
INITIALIZING state.

- const **ComponentState** RTC_READY = 3
READY state.

- const **ComponentState** RTC_STARTING = 4
STARTING state.

- const **ComponentState** RTC_ACTIVE = 5
ACTIVE state.

- const **ComponentState** RTC_STOPPING = 6
STOPPING state.

- const **ComponentState** RTC_ABORTING = 7
ABORTING state.

- const **ComponentState** RTC_ERROR = 8
ERROR state.

- const **ComponentState** RTC_FATAL_ERROR = 9
FATAL_ERROR state.

- const **ComponentState** RTC_EXITING = 10
EXITING state.

- readonly attribute **OutPort** rtc_state
% "%/%F%#%S%F%#%9%F! <%?%9\$N OutPort \$N<hF@

- readonly attribute **InPortList** inports
InPortList \$N<hF@.

- readonly attribute **OutPortList** outports
OutPortList \$N<hF@.

8.1.1 @bL@

RTCBase(p. 193) %\$%S%?! <%U% '! <%9.

RTComponent(p. 181) %\$%S%?! <%U% '! <%9\$r7Q> \$?! "< \$KJ#9g%3%\$%]! <%M%\$%H2=>\$KI,MW\$J%a
%=>%C%I\$ rDI2C\$7\$?%\$%S%?! <%U% '! <%9! # %3%\$%]! <%M%\$%H% "%/%F%#%S%F%#> BV\$KBP1~\$9\$K%a%=>%C%I! "
% "%/%F%#%S%F%#%9%1%C%I \$N@)8f! "; R3%\$%]! <%M%\$%H\$NDI2C! ": o=|! "CV49\$r9T\$&%*%Z%1! <%7%g%\$s
\$,DI2C\$5\$1 \$F\$ \$\$k.

8.1.2 7?Dj5A

8.1.2.1 typedef short RTM::RTComponent::ComponentState [inherited]

%3%S%]! <%M% S%H\$N% "% /%F% #S%F% #> BV

8.1.3 4X?t

8.1.3.1 InPort RTM::RTComponent::get_inport (in string *name*) raises (NoSuchName) [inherited]

InPort(p.??) \$N< E@

InPort(p.??) \$N% *%V%8% '%/%H% j%U% !%1%S%9\$r< E@\$9\$k! #

0z?t:

-4pt *name* InPort(p.??) L>

8.1.3.2 OutPort RTM::RTComponent::get_outport (in string *name*) raises (NoSuchName) [inherited]

OutPort(p.191) \$N< E@

OutPort(p.191) \$N% *%V%8% '%/%H% j%U% !%1%S%9\$r< E@\$9\$k! #

0z?t:

-4pt *name* OutPort(p.191) L>

8.1.3.3 RTCService RTM::RTComponent::get_service (in string *id*) raises (InvalidParameter, InvalidReturnValue, NotAvailable) [inherited]

8.1.3.4 RTCServiceProfile RTM::RTComponent::get_service_profile (in string *id*) raises (InvalidParameter, InvalidReturnValue, NotAvailable) [inherited]

8.1.3.5 RTCServiceProfileList RTM::RTComponent::get_service_profiles () raises (NotAvailable) [inherited]

Return connector port object reference list.

8.1.3.6 RtmRes RTM::RTCBase::rtc_aborting_entry ()

entry: aborting() %a%=%C%I

ABORTING > BV\$X?JF~\$9\$k\$H\$-\$K1 EY\$@ \$18F\$S=P\$5\$1\$k%a%=%C%I! # % (%i! <\$, \$J\$1\$1\$P
 READY > BV\$XA+0\ \$9\$k! # La\$ jCM\$, RTM_ERR \$G ERROR > BV\$X! " RTM_FATALERR \$G
 FATAL_ERROR > BV\$XA+0\ \$9\$k! #

8.1.3.7 RtmRes RTM::RTCBase::rtc_active_do ()

do: active() %a%=%C%I

ACTIVE > BV\$K5 \$k4V< 4 |< BT\$5\$1\$k%a%=%C%I! #

8.1.3.8 RtmRes RTM::RTCBase::rtc_active_entry ()

entry: active() %a%=%C%I

ACTIVE > BV\$K?JF~\$9\$k\$H\$-\$K1 EY\$@ \$1< BT\$5\$1\$k%a%=%C%I! #

8.1.3.9 RtmRes RTM::RTCBase::rtc_active_exit ()

exit: active() %a%=%C%I

ACTIVE > BV\$+\$i=F\$k\$H\$-\$K1 EY\$@ \$1< BT\$5\$1\$k%a%=%C%I! #

8.1.3.10 RtmRes RTM::RTCBase::rtc_add_component (in RTCBase *comp*)

; R3% s%]! <%M% s%H\$ rD I2 C\$ 9\$k

; R3% s%]! <%M% s%H\$N% *%V%8% '%/%H% j%U% !%1% s%9\$ r%;%C%H\$ 9\$k! # C1BN%3% s%]! <%M% s%H\$K\$ *\$ \$\$F
 \$3\$N% a%=%C%I\$ OL\$; MQ\$N\$?\$a! "RTM_ERR \$ rJV\$9! #

8.1.3.11 RtmRes RTM::RTCBase::rtc_attach_inport (in InPort *in_port*)

InPort \$r% "% ?%C%A\$ 9\$k

; R3% s%]! <%M% s%H\$NInPort \$r\$3\$N%3% s%]! <%M% s%H\$NInPort \$K% "% ?%C%A\$ 9\$k! # C1BN%3% s%]! <
 %M% s%H\$K\$ *\$ \$\$F\$O< F,< ?H% *%V%8% '%/%H% j%U% !%1% s%9\$ rJV\$9! #

8.1.3.12 RtmRes RTM::RTCBase::rtc_attach_inport_by_name (in RTCBase *comp*, in string *name*)

InPort \$r% "% ?%C%A\$ 9\$k

; R3% s%]! <%M% s%H\$NInPort L>\$r; Øj\$7\$F%3% s%]! <%M% s%H\$NInPort \$K% "% ?%C%A\$ 9\$k! # C1BN%3
 % s%]! <%M% s%H\$K\$ *\$ \$\$F\$O< F,< ?H% *%V%8% '%/%H% j%U% !%1% s%9\$ rJV\$9! #

8.1.3.13 RtmRes RTM::RTCBase::rtc_attach_outport (in OutPort *out_port*)

OutPort \$r% "% ?%C%A\$ 9\$ k.

```
; R3% s% ]! <%M% s%H$NOutPort $r$ 3$N% 3% s% ]! <%M% s%H$NOutPort $K% "% ?%C%A$ 9$ k! # C1BN% 3% s% ]! <%M% s%H$K$ *$ $$F$ O< F,< ?H% *%V% 8% '%/%H% j%U% !%1% s% 9$ rJV$ 9! #
```

8.1.3.14 RtmRes RTM::RTCBase::rtc_attach_outport_by_name (in RTCBase *comp*, in string *name*)

OutPort \$r% "% ?%C%A\$ 9\$ k.

```
; R3% s% ]! <%M% s%H$NOutPort L>$r; Nj$ 7$F% 3% s% ]! <%M% s%H$NInPort $K% "% ?%C%A$ 9$ k! # C1BN% 3% s% ]! <%M% s%H$K$ *$ $$F$ O< F,< ?H% *%V% 8% '%/%H% j%U% !%1% s% 9$ rJV$ 9! #
```

8.1.3.15 RTCBaseList RTM::RTCBase::rtc_components ()

```
; R3% s% ]! <%M% s%H$r% j% 9% H$H$ 7$F< E@ $ 9$ k! #
```

```
; R3% s% ]! <%M% s%H$N% j% 9% H$r< E@ $ 9$ k! # C1BN% 3% s% ]! <%M% s%H$K$ *$ $$F$ O< F,< ?H% *%V% 8% '%/%H% j%U% !%1% s% 9$ rJV$ 9! #
```

8.1.3.16 RtmRes RTM::RTCBase::rtc_delete_component (in RTCBase *comp*)

```
; R3% s% ]! <%M% s%H$r: o= |$ 9$ k
```

```
; R3% s% ]! <%M% s%H$N% *%V% 8% '%/%H% j%U% !%1% s% 9$ r: o= |$ 9$ k! # C1BN% 3% s% ]! <%M% s%H$K$ *$ $$F$ 3$N% a%=%C% I$OL$; MQ$N$ ?$a! "RTM_ERR $ rJV$ 9! #
```

8.1.3.17 RtmRes RTM::RTCBase::rtc_detatch_inport (in InPort *in_port*)

InPort \$r%G% ?%C%A\$ 9\$ k.

```
; R3% s% ]! <%M% s%H$NInPort $r$ 3$N% 3% s% ]! <%M% s%H$NInPort $+$i%G% ?%C%A$ 9$ k! # C1BN% 3% s% ]! <%M% s%H$K$ *$ $$F$ O RTM_ERR $ rJV$ 9! #
```

8.1.3.18 RtmRes RTM::RTCBase::rtc_detatch_inport_by_name (in string *name*)

InPort \$r%G% ?%C%A\$ 9\$ k.

```
; R3% s% ]! <%M% s%H$NInPort $rL>A0$r; Nj$ 7$F$ 3$N% 3% s% ]! <%M% s%H$NInPort $+$i %G% ?%C%A$ 9$ k! # C1BN% 3% s% ]! <%M% s%H$K$ *$ $$F$ O RTM_ERR $ rJV$ 9! #
```

8.1.3.19 RtmRes RTM::RTCBase::rtc_detatch_outport (in OutPort out_port)

OutPort \$r%C%?%C%A\$9\$k

```
; R3%$% ]! <%M%$%H$NOutPort $r$3$N%3%$% ]! <%M%$%H$NOutPort $+$i%C%?%C%A$9$k! # C1BN%3
%$% ]! <%M%$%H$K$*$ $F$O RTM_ERR $rJV$9! #
```

8.1.3.20 RtmRes RTM::RTCBase::rtc_detatch_outport_by_name (in string name)

OutPort \$r%C%?%C%A\$9\$k

```
; R3%$% ]! <%M%$%H$NOutPort $rL>A0$r; Øj$7$F$3$N%3%$% ]! <%M%$%H$NOutPort $+$i %C%?%C
%A$9$k! # C1BN%3%$% ]! <%M%$%H$K$*$ $F$O RTM_ERR $rJV$9! #
```

8.1.3.21 RtmRes RTM::RTCBase::rtc_error_do ()

do: error() %a%=%C%I

ERROR > BV\$K\$ \$k4V< 4|< BT\$5\$1\$k%a%=%C%I! #

8.1.3.22 RtmRes RTM::RTCBase::rtc_error_entry ()

entry: error() %a%=%C%I

ERROR > BV\$X?JF~\$9\$k\$H\$-\$K1 EY\$@ \$18F\$S=P\$5\$1\$k%a%=%C%I! #

8.1.3.23 RtmRes RTM::RTCBase::rtc_error_exit ()

exit: error() %a%=%C%I

ERROR > BV\$+\$i=P\$k\$H\$-\$K1 EY\$@ \$1< BT\$5\$1\$k%a%=%C%I! #

8.1.3.24 RtmRes RTM::RTComponent::rtc_exit () raises (IllegalTransition) [inherited]

%3%\$%]! <%M%\$%H\$N%j% ;%C%H

```
%3%$% ]! <%M%$%H$N> BV$r EXITING $KA+0\ $5$;$k! # EXITING > BV$KA+0\ $7$?%3%$% ]! <%M
%$%H$CF sEY$HI |5 $9$k$3$H$J$ /=-*N;$9$k! #
```

8.1.3.25 RtmRes RTM::RTCBase::rtc_exiting_entry ()

entry: exiting() %a%=%C%I

```
EXITING > BV$X?JF~$9$k$H$-$K1 EY$@ $18F$S=P$5$1$k%a%=%C%I! #% (%i! <$,$J$1$1$PREADY
> BV$XA+0\ $9$k! # La$JC M$, RTM_ERR $G ERROR > BV$X! " RTM_FATALERR $G FATAL_-
```

ERROR > BV\$XA+0\\$9\$k! #

8.1.3.26 RtmRes RTM::RTCBase::rtc_fatal_do ()

do: fatal() %a%=%C%I

FATAL_ERROR > BV\$K\$ \$\$k4V< 4 |< BT\$5\$1\$k%a%=%C%I! #

8.1.3.27 RtmRes RTM::RTCBase::rtc_fatal_entry ()

entry: fatal() %a%=%C%I

FATAL_ERROR > BV\$X?JF~\$9\$k\$H\$-\$K1 EY\$@ \$18F\$S=P\$5\$1\$k%a%=%C%I! #

8.1.3.28 RtmRes RTM::RTCBase::rtc_fatal_exit ()

exit: fatal() %a%=%C%I

READY > BV\$+\$i=P\$k\$H\$-\$K1 EY\$@ \$1< BT\$5\$1\$k%a%=%C%I! #

8.1.3.29 RTCBase RTM::RTCBase::rtc_get_component (in string name)

; R3%\$%!<%M%\$H\$rL>A0\$r; Øj\$7\$F< F@

; R3%\$%!<%M%\$H\$rL>A0\$r; Øj\$7\$F\$=\$N%*%V%8%'/%H%j%U%!%1%\$9\$r< F@ \$9\$k! # C1BN%3%\$%j!<%M%\$H\$K\$*\$ \$F\$Q< F,< FH%*%V%8%'/%H%j%U%!%1%\$9\$rJV\$9! #

8.1.3.30 RtmRes RTM::RTCBase::rtc_init_entry ()

entry: init() %a%=%C%I

INITIALIZING > BV\$X?JF~\$9\$k\$H\$-\$K1 EY\$@ \$18F\$S=P\$5\$1\$k%a%=%C%I! # % (%i!<\$,\$J\$1\$1\$P
READY > BV\$XA+0\\$9\$k! # La\$ jCM\$, RTM_ERR \$G ERROR > BV\$X! " RTM_FATALERR \$G
FATAL_ERROR > BV\$XA+0\\$9\$k! #

8.1.3.31 RtmRes RTM::RTComponent::rtc_kill () [inherited]

%3%\$%!<%M%\$H\$N6 Ø)=*N;

FATAL_ERROR > BV\$N%3%\$%!<%M%\$H\$r EXITING \$KA+0\\$5\$;\$k! #EXITING > BV\$KA+0\\$7\$?%3%\$%!<%M%\$H\$CFsEY\$HI |5 Ø9\$k\$3\$H\$J\$/=*N;\$9\$k! #

8.1.3.32 RtmRes RTM::RTCBase::rtc_ready_do ()

do: ready() %a%=%C%I

READY > BV\$K\$ \$\$k4V< 4 |< BT\$ 5\$ 1\$ k% a% =%C% I! #

8.1.3.33 RtmRes RTM::RTCBase::rtc_ready_entry ()

entry: ready() %a%=%C% I

READY > BV\$X? JF ~\$ 9\$ k\$ H\$ -\$K1 EY\$ @ \$ 18 F\$ S=P\$ 5\$ 1\$ k% a% =%C% I! #

8.1.3.34 RtmRes RTM::RTCBase::rtc_ready_exit ()

exit: ready() %a%=%C% I

READY > BV\$+\$i=P\$ k\$ H\$ -\$K1 EY\$ @ \$ 1< BT\$ 5\$ 1\$ k% a% =%C% I! #

8.1.3.35 RtmRes RTM::RTCBase::rtc_replace_component (in RTCBase *comp1*, in RTCBase *comp2*)

; R3% s%]! <%M% s% H\$ N=g=x\$ rF ~\$ 1BX\$ (\$k

2 \$D\$N; R3% s%]! <%M% s% H\$ r% *%V% 8% '% /%H% j%U% !%1% s% 9\$ r; MQ\$ 7\$ F=g=x\$ rF ~\$ 1BX\$ (\$k! # C1BN% 3% s%]! <%M% s% H\$ K\$ *\$ \$\$F\$ 3\$ N% a% =%C% I\$ CL\$; MQ\$N\$?\$ a! "RTM_ERR \$rJV\$ 9! #

8.1.3.36 RtmRes RTM::RTCBase::rtc_replace_component_by_name (in string *name1*, in string *name2*)

; R3% s%]! <%M% s% H\$ N=g=x\$ rF ~\$ 1BX\$ (\$k

2 \$D\$N; R3% s%]! <%M% s% H\$ N=g=x\$ r% 3% s%]! <%M% s% HL>\$r; B j\$ 7\$ FF ~\$ 1BX\$ (\$k! # C1BN% 3% s%]! <%M% s% H\$ K\$ *\$ \$\$F\$ 3\$ N% a% =%C% I\$ CL\$; MQ\$N\$?\$ a! "RTM_ERR \$rJV\$ 9! #

8.1.3.37 RtmRes RTM::RTComponent::rtc_reset () raises (IllegalTransition) [inherited]

%3% s%]! <%M% s% H\$ N% j% ;%C% H

%3% s%]! <%M% s% H\$ N> BV\$r ERROR \$+\$i INITIALIZE \$KA+0 \ \$5\$;\$k! # INITIALIZE 8e% (%i! <\$,\$J\$ 1\$ 1\$ P\$ 9\$ 0\$ K READY > BV\$KA+0 \ \$9\$ k! # \$ 3\$ N% *%Z% 1! <% 7% g% s\$ rH /9 T\$ 9\$ k\$ H\$ -! "%3% s%]! <%M% s% H\$ O ERROR > BV\$G\$ J\$ 1\$ 1\$ P \$ J\$ i\$ J\$ \$! #B>\$N> BV\$N> 9g\$K\$ O IllegalTransition(p.188) Nc3 0\$,H/@ 8\$ 9\$ k! #

8.1.3.38 RtmRes RTM::RTCBase::rtc_set_parent (in RTCBase *comp*)

?F% 3% s%]! <%M% s% H\$ r% ;%C% H\$ 9\$ k

?F% 3% s%]! <%M% s% H\$ N% *%V% 8% '% /%H% j%U% !%1% s% 9\$ r% ;%C% H\$ 9\$ k! #

8.1.3.39 RtmRes RTM::RTComponent::rtc_start () raises (IllegalTransition) [inherited]

%3%s%]! <%M% s%H\$N% "%/%F% #V2=

%3%s%]! <%M% s%H\$N> BV\$r READY \$+\$i ACTIVE \$KA+0\\$5\$;\$k! # \$3\$N% *%Z%1! <%7%g% s\$r H/9T\$9\$k\$H\$-! "%3%s%]! <%M% s%H\$O READY > BV\$G\$J\$1\$1\$P \$J\$ i\$J\$ \$! #B>\$N> BV\$N> 9g\$K\$O
IllegalTransition(p.188) Nc3 0\$,H/@8\$9\$k! #

8.1.3.40 RtmRes RTM::RTCBase::rtc_start_thread ()

% "%/%F% #S%F% #9%1%C% I\$N% 9%H%C%W

%3%s%]! <%M% s%H% "%/%F% #S%F% #NFbIt% 9%1%C% I\$r% 9%H%C%W\$5\$;\$k

8.1.3.41 RtmRes RTM::RTCBase::rtc_starting_entry ()

entry: starting() %a%=%C%I

STARTING > BV\$X?JF~\$9\$k\$H\$-\$K1 EY\$ @ \$18F\$S=P\$5\$1\$k%a%=%C%I! # % (%i! <\$,\$J\$1\$1\$P AC-
TIVE > BV\$XA+0\\$9\$k! # La\$ jCM\$, RTM_ERR \$G ERROR > BV\$X! " RTM_FATALERR \$G
FATAL_ERROR > BV\$XA+0\\$9\$k! #

8.1.3.42 RtmRes RTM::RTComponent::rtc_stop () raises (IllegalTransition) [inherited]

%3%s%]! <%M% s%H\$NHs% "%/%F% #V2=

%3%s%]! <%M% s%H\$N> BV\$r ACTIVE \$+\$i READY \$KA+0\\$5\$;\$k! # \$3\$N% *%Z%1! <%7%g% s\$r H/9T\$9\$k\$H\$-! "%3%s%]! <%M% s%H\$O ACTIVE > BV\$G\$J\$1\$1\$P \$J\$ i\$J\$ \$! #B>\$N> BV\$N> 9g\$K\$O
IllegalTransition(p.188) Nc3 0\$,H/@8\$9\$k! #

8.1.3.43 RtmRes RTM::RTCBase::rtc_stop_thread ()

% "%/%F% #S%F% #9%1%C% I\$N% 9%?! <%H

%3%s%]! <%M% s%H% "%/%F% #S%F% #NFbIt% 9%1%C% I\$r% 9%?! <%H\$5\$;\$k

8.1.3.44 RtmRes RTM::RTCBase::rtc_stopping_entry ()

entry: stopping() %a%=%C%I

STOPPING > BV\$X?JF~\$9\$k\$H\$-\$K1 EY\$ @ \$18F\$S=P\$5\$1\$k%a%=%C%I! # % (%i! <\$,\$J\$1\$1\$P
READY > BV\$XA+0\\$9\$k! # La\$ jCM\$, RTM_ERR \$G ERROR > BV\$X! " RTM_FATALERR \$G
FATAL_ERROR > BV\$XA+0\\$9\$k! #

8.1.3.45 RtmRes RTM::RTComponent::rtc_worker () [inherited]

%a%\$%\$% "%/%F%#%S%F%#\$N%a%=%C%I

%3%\$%]! <%M%\$%H\$N% "%/%F%#%S%F%#\$NK\BN\$O\$3\$N%a%=%C%I\$r< 4 |< BT\$9\$k\$3\$H\$K\$h\$j=hM}\$5\$1
\$k! #C1BN\$N%3%\$%]! <%M%\$%H\$G\$QFbI tE*\$J%9%1%C%I\$K\$h\$j\$3\$N%a%=%C%I\$r< 4 |8F=P\$9\$k\$3\$H\$G=h
M}\$r9T\$C\$F\$S\$k! # %9%1%C%I\$rDd; _\$5\$;! "30It+\$i\$3\$N%*%Z%1! <%7%g%\$r8F\$S=P\$9\$3\$H\$K\$h\$j! "
G\$0U\$N%?\$%\$_\$%O\$G% "%/%F%#%S%F%#\$r< BT\$9\$k\$3\$H\$b=FMh\$k! #

8.1.4 JQ?t**8.1.4.1 readonly attribute string RTM::RTComponent::category [inherited]**

%3%\$%]! <%M%\$%H\$N%+%F%4%j

8.1.4.2 readonly attribute string RTM::RTComponent::description [inherited]

%3%\$%]! <%M%\$%H\$N35MW

8.1.4.3 readonly attribute string RTM::RTComponent::implementation_id [inherited]

%3%\$%]! <%M%\$%H\$N%\$%\$%W%j%a%\$%F! <%7%g%\$ID

8.1.4.4 readonly attribute InPortList RTM::RTComponent::inports [inherited]

InPortList \$NK H@.

InPort(p.??) \$N%*%V%8%'%/%H%j%U%!%1%\$%9\$N%j%9%H\$r< H@\$9\$k! #

8.1.4.5 readonly attribute string RTM::RTComponent::instance_id [inherited]

%3%\$%]! <%M%\$%H\$N%\$%\$%9%?\$%\$%9ID

8.1.4.6 readonly attribute string RTM::RTComponent::maker [inherited]

%3%\$%]! <%M%\$%H\$N:n@.< T

8.1.4.7 readonly attribute OutPortList RTM::RTComponent::outports [inherited]

OutPortList \$N< H@

OutPort(p. 191) \$N% *%V%8% '%/%H% j%U% !%1%S%9\$N% j%9%H\$ r< H@ \$9\$ k! #

8.1.4.8 readonly attribute RTCProfile RTM::RTCBase::profile

%3%S%]! <%M% S%H\$N%W% m%U% !%\$%k9 =B \$BN

8.1.4.9 const ComponentState RTM::RTComponent::RTC_ABORTING = 7 [inherited]

ABORTING state.

8.1.4.10 const ComponentState RTM::RTComponent::RTC_ACTIVE = 5 [inherited]

ACTIVE state.

8.1.4.11 const ComponentState RTM::RTComponent::RTC_BORN = 1 [inherited]

BORN state.

8.1.4.12 const ComponentState RTM::RTComponent::RTC_ERROR = 8 [inherited]

ERROR state.

8.1.4.13 const ComponentState RTM::RTComponent::RTC_EXITING = 10 [inherited]

EXITING state.

8.1.4.14 const ComponentState RTM::RTComponent::RTC_FATAL_ERROR = 9 [inherited]

FATAL_ERROR state.

8.1.4.15 `const ComponentState RTM::RTComponent::RTC_INITIALIZING = 2` [inherited]

INITIALIZING state.

8.1.4.16 `const ComponentState RTM::RTComponent::RTC_READY = 3` [inherited]

READY state.

8.1.4.17 `const ComponentState RTM::RTComponent::RTC_STARTING = 4` [inherited]

STARTING state.

8.1.4.18 `readonly attribute OutPort RTM::RTComponent::rtc_state` [inherited]

% "%/%F%#%S%F%#%9%F! <%?%9\$NOutPort \$N< Ĥ@

% "%/%F%#%S%F%#%9%F! <%?%9\$NOutPort \$N%*%V%8%'%/%H%j%U%!%1%S%9\$r< Ĥ@9\$k! #

8.1.4.19 `const ComponentState RTM::RTComponent::RTC_STOPPING = 6` [inherited]

STOPPING state.

8.1.4.20 `const ComponentState RTM::RTComponent::RTC_UNKNOWN = 0` [inherited]

UNKNOWN state.

8.1.4.21 `readonly attribute string RTM::RTComponent::version` [inherited]

%3%S%]! <%M%S%H\$N%P! <%8%g%\$

\$3\$N%\$%S%?%U%'! <%9\$N%bL@SOK \$N%U!%\$%k\$+\$i@8@.\$5\$1\$^\$7\$?:

- **RTCBase.idl**

8.2 %\$%S% ?%U% '! <%9RTM::RTCManager

RTComponent(p. 181) %\$%S% ?! <%U% '! <%9.

```
import "RTCManager.idl";
```

Public %a%=%C%I

- **RtmRes load** (in string pathname, in string initfunc)
%b%8%e! <%k\$N% m! <%I
- **RtmRes unload** (in string pathname)
%b%8%e! <%k\$N% "%S% m! <%I
- **RTCBase create_component** (in string module_name, in string category_name, out string instance_name)
%3%S%]! <%M% S%H\$N%8% .
- **RtmRes delete_component** (in string instance_name, in string category_name)
%3%S%]! <%M% S%H\$N: o= |
- **RTCFactoryList factory_list** ()
%3%S%]! <%M% S%H *Factory* %j%9%H\$N<hF@
- **RTCBaseList component_list** ()
%3%S%]! <%M% S%H% j%9%H\$N<hF@
- **RtmRes command** (in string cmd, out string ret)
4J0W% \$%S% ?%W% j%?

8.2.1 @bL@

RTComponent(p. 181) %\$%S% ?! <%U% '! <%9.

RTCManager(p. 208) \$O%3%S%]! <%M% S%H\$N% m! <%I! " @8@. ! "GK4~\$J\$ I\$N% i%\$%U% 5%\$% /%k\$ r4I
M} \$9\$ k! # \$ ^\$?%3%S%]! <%M% S%H\$KBP\$ 7\$F3F< @5! <%S% 9\$ rD\$6 \$9\$ k! #

8.2.2 4X?t

8.2.2.1 RtmRes RTM::RTCManager::command (in string *cmd*, out string *ret*)

4J0W% \$%S% ?%W% j%?

%^%M! <%8% c\$N4J0W% \$%S% ?%W% j% ?%3% ^%S% I\$N< BT

8.2.2.2 RTCBaseList RTM::RTCManager::component_list ()

%3%\$%]! <%M% \$%H% j% 9%H\$N< H@

%3%\$%]! <%M% \$%H\$N% j% 9%H\$ r< H@ \$ 9\$k

8.2.2.3 RTCBase RTM::RTCManager::create_component (in string *module_name*, in string *category_name*, out string *instance_name*)

%3%\$%]! <%M% \$%H\$N@ 8@ .

%3%\$%]! <%M% \$%H\$N% \$% \$% 9% ?% \$% 9\$r@ 8@ . \$ 9\$k

0 z? t:

-4pt ***module_name*** %3%\$%]! <%M% \$%H% b% 8% e! <%kL>

category_name %3%\$%]! <%M% \$%H% +%F% 4% j

instance_name %\$%\$% 9% ?% \$% 9L> (LaCM)

8.2.2.4 RtmRes RTM::RTCManager::delete_component (in string *instance_name*, in string *category_name*)

%3%\$%]! <%M% \$%H\$N: O= |

%3%\$%]! <%M% \$%H\$N% \$% \$% 9% ?% \$% 9\$r: O= | \$ 9\$k

0 z? t:

-4pt ***comp_name*** %\$%\$% 9% ?% \$% 9L>

8.2.2.5 RTCFactoryList RTM::RTCManager::factory_list ()

%3%\$%]! <%M% \$%H Factory %j% 9%H\$N< H@

%3%\$%]! <%M% \$%H Factory \$N% j% 9%H\$r< H@ \$ 9\$k

8.2.2.6 RtmRes RTM::RTCManager::load (in string *pathname*, in string *initfunc*)

%b% 8% e! <%k\$N% m! <%I

%3%\$%]! <%M% \$%H\$N% b% 8% e! <%k\$ r% m! <%I\$ 7\$F=i4 |2=4X?t\$r< BT\$ 9\$k! #

0 z? t:

-4pt ***pathname*** %3%\$%]! <%M% \$%H% b% 8% e! <%k%U% !%\$%kL>

initfunc =i4 |2=4X?tL>

8.2.2.7 RtmRes RTM::RTCManager::unload (in string *pathname*)

%b%8%e! <%k\$N% "%s%m! <%I

%3%s%]! <%M% s%H\$N%b%8%e! <%k\$r% "%s%m! <%I\$9\$k

0z?t:

-4pt *pathnae* %3%s%]! <%M% s%H%b%8%e! <%k\$N%U% !%\$%kL>

\$3\$N%\$%s% ?%U% '! <%9\$N%bL@ \$O< \$N%U% !%\$%k\$ +\$i@8@ . \$5\$1\$ ^\$7\$?.

- RTCManager.idl

8.3 9=B\$BN RTM::Time

```
; 9o9=B$BN
import "RTMBase.idl";
```

Public JQ?t

- unsigned long **sec**
- unsigned long **nsec**

8.3.1 @bL@

```
; 9o9=B$BN
; 9o$r3JG<$9$k9=B$BN! #G! <? ?$N% ?% $% ' %9% ?% s% W$ J$ I$ K; MQ! #
```

8.3.2 JQ?t

8.3.2.1 unsigned long RTM::Time::nsec

8.3.2.2 unsigned long RTM::Time::sec

```
$3$N9=B$BN$N@bL@$O< $N%U% !% $%k$ +$ i@8@ . $5$1$ ^$ 7$ ?:
```

- **RTMBase.idl**

8.4 9=B\$BN RTM::TimedBoolean

```
import "RTCDataType.idl";
```

Public JQ?t

- **Time** **tm**
- **boolean** **data**

8.4.1 JQ?t

8.4.1.1 boolean RTM::TimedBoolean::data

8.4.1.2 Time RTM::TimedBoolean::tm

```
$ 3$N9=B$BN$N0hL@ $OK $N%U% !%$%k$ +$i@8@ . $ 5$ 1$ ^$ 7$ ?:
```

- **RTCDataType.idl**

8.5 `RTM::TimedBooleanSeq`

```
import "RTCDataType.idl";
```

Public `sequence<boolean>`

- **Time** `tm`
- `sequence<boolean>` **data**

8.5.1 `sequence<boolean>`

8.5.1.1 `sequence<boolean>` `RTM::TimedBooleanSeq::data`

8.5.1.2 `Time` `RTM::TimedBooleanSeq::tm`

```
$3$N9=B$BN$N0bL@ $O< $N%U% !%$%k$+$i@8@.$5$1$^$7$?;
```

- `RTCDataType.idl`

8.6 9=B\$BN RTM::TimedChar

```
import "RTCDataType.idl";
```

Public JQ?t

- **Time** tm
- char **data**

8.6.1 JQ?t

8.6.1.1 char RTM::TimedChar::data

8.6.1.2 Time RTM::TimedChar::tm

```
$ 3$N9=B$BN$N0bL@ $OK $N%U% !% $%k$ +$ i@8@ . $ 5$ 1$ ^$ 7$ ?:
```

- **RTCDataType.idl**

8.7 9=BN RTM::TimedCharSeq

```
import "RTCDataType.idl";
```

Public JQ?t

- **Time** tm
- sequence< char > **data**

8.7.1 JQ?t

8.7.1.1 sequence<char> RTM::TimedCharSeq::data

8.7.1.2 Time RTM::TimedCharSeq::tm

```
$ 3$N9=BN$N0bL@ $O< $N%U% !%$%k$+$i@8@.$ 5$ 1$ ^$ 7$ ?:
```

- **RTCDataType.idl**

8.8 9=B\$BN RTM::TimedDouble

```
import "RTCDataType.idl";
```

Public JQ?t

- **Time** **tm**
- **double** **data**

8.8.1 JQ?t

8.8.1.1 double RTM::TimedDouble::data

8.8.1.2 Time RTM::TimedDouble::tm

```
$ 3$N9=B$BN$N0hL@ $OK $N%U% !%$%k$+$i@8@.$ 5$ 1$^$ 7$ ?:
```

- **RTCDataType.idl**

8.9 9=B\$BN RTM::TimedDoubleSeq

```
import "RTCDataType.idl";
```

Public JQ?t

- **Time** **tm**
- **sequence**< double > **data**

8.9.1 JQ?t

8.9.1.1 **sequence**<double> **RTM::TimedDoubleSeq::data**

8.9.1.2 **Time** **RTM::TimedDoubleSeq::tm**

```
$ 3$N9=B$BN$N0bL@ $O< $N%U% !%$%k$+$i@8@.$ 5$ 1$ ^$ 7$ ?:
```

- **RTCDataType.idl**

8.10 9=B\$BN RTM::TimedFloat

```
import "RTCDataType.idl";
```

Public JQ?t

- **Time** **tm**
- **float** **data**

8.10.1 JQ?t

8.10.1.1 float RTM::TimedFloat::data

8.10.1.2 Time RTM::TimedFloat::tm

```
$3$N9=B$BN$N0hL@ $OK $N%U% !%$%k$+$i@8@.$5$1$^$7$?:
```

- **RTCDataType.idl**

8.11 9=BN RTM::TimedFloatSeq

```
import "RTCDataType.idl";
```

Public JQ?t

- **Time** **tm**
- sequence< float > **data**

8.11.1 JQ?t

8.11.1.1 sequence<float> RTM::TimedFloatSeq::data

8.11.1.2 Time RTM::TimedFloatSeq::tm

```
$ 3$N9=BN$N0bL@ $O< $N%U% !%$%k$+$i@8@.$ 5$ 1$ ^$ 7$ ?:
```

- **RTCDataType.idl**

8.12 9⇒B\$BN RTM::TimedLong

```
import "RTCDataType.idl";
```

Public JQ?t

- **Time** tm
- long **data**

8.12.1 JQ?t

8.12.1.1 long RTM::TimedLong::data

8.12.1.2 Time RTM::TimedLong::tm

```
$3$N9⇒B$BN$N0hL@ $OK $N%U% !%$%k$ +$i@8@ . $5$1$^$7$ ?:
```

- **RTCDataType.idl**

8.13 9=BN RTM::TimedLongSeq

```
import "RTCDataType.idl";
```

Public JQ?t

- **Time** **tm**
- **sequence**< long > **data**

8.13.1 JQ?t

8.13.1.1 **sequence**<long> **RTM::TimedLongSeq::data**

8.13.1.2 **Time** **RTM::TimedLongSeq::tm**

```
$ 3$N9=BN$N0bL@ $O< $N%U% !%$%k$+$i@8@.$ 5$ 1$ ^$ 7$ ?:
```

- **RTCDataType.idl**

8.14 9=B\$BN RTM::TimedOctet

```
import "RTCDataType.idl";
```

Public JQ?t

- **Time** tm
- **octet** data

8.14.1 JQ?t

8.14.1.1 octet RTM::TimedOctet::data

8.14.1.2 Time RTM::TimedOctet::tm

```
$3$N9=B$BN$N0hL@ $OK $N%U% !%$%k$+$i@8@.$5$1$^$7$?:
```

- **RTCDataType.idl**

8.15 9=BN RTM::TimedOctetSeq

```
import "RTCDataType.idl";
```

Public JQ?t

- **Time** **tm**
- sequence< octet > **data**

8.15.1 JQ?t

8.15.1.1 sequence<octet> RTM::TimedOctetSeq::data

8.15.1.2 Time RTM::TimedOctetSeq::tm

```
$ 3$N9=BN$N0bL@ $O< $N%U% !%$%k$+$i@8@.$ 5$ 1$ ^$ 7$ ?:
```

- **RTCDataType.idl**

8.16 9=BN RTM::TimedShort

```
import "RTCDataType.idl";
```

Public JQ?t

- **Time** tm
- **short** data

8.16.1 JQ?t

8.16.1.1 short RTM::TimedShort::data

8.16.1.2 Time RTM::TimedShort::tm

```
$3$N9=BN$N0hL@ $OK $N%U% !%$%k$ +$i@8@ . $5$1$^$7$ ?:
```

- **RTCDataType.idl**

8.17 9=BN RTM::TimedShortSeq

```
import "RTCDataType.idl";
```

Public JQ?t

- **Time** tm
- sequence< short > **data**

8.17.1 @bL@

Sequence data type

8.17.2 JQ?t

8.17.2.1 sequence<short> RTM::TimedShortSeq::data

8.17.2.2 Time RTM::TimedShortSeq::tm

```
$3$N9=BN$N@bL@$O< $N%U% !%$%k$+$i@8@.$5$1$^$7$?:
```

- **RTCDataType.idl**

8.18 9=BN RTM::TimedState

```
import "RTCDataType.idl";
```

Public JQ?t

- **Time** tm
- **short** data

8.18.1 JQ?t

8.18.1.1 short RTM::TimedState::data

8.18.1.2 Time RTM::TimedState::tm

```
$3$N9=BN$N0hL@ $OK $N%U% !%$%k$ +$i@8@ . $5$1$^$7$ ?:
```

- **RTCDataType.idl**

8.19 9=BN RTM::TimedString

```
import "RTCDataType.idl";
```

Public JQ?t

- **Time** **tm**
- **string** **data**

8.19.1 JQ?t

8.19.1.1 string RTM::TimedString::data

8.19.1.2 Time RTM::TimedString::tm

```
$ 3$N9=BN$N0bL@ $O< $N%U% !%$%k$+$i@8@.$ 5$ 1$ ^$ 7$ ?:
```

- **RTCDataType.idl**

8.20 9=B\$BN RTM::TimedStringSeq

```
import "RTCDataType.idl";
```

Public JQ?t

- **Time** tm
- sequence< string > **data**

8.20.1 JQ?t

8.20.1.1 sequence<string> RTM::TimedStringSeq::data

8.20.1.2 Time RTM::TimedStringSeq::tm

```
$ 3$N9=B$BN$N@bL@ $OK $N%U% !% $%k$ +$ i@8@ . $ 5$ 1$ ^$ 7$ ?:
```

- **RTCDataType.idl**

8.21 9=BN RTM::TimedULong

```
import "RTCDataType.idl";
```

Public JQ?t

- **Time** **tm**
- unsigned long **data**

8.21.1 JQ?t

8.21.1.1 unsigned long RTM::TimedULong::data

8.21.1.2 Time RTM::TimedULong::tm

```
$3$N9=BN$N0bL@ $O< $N%U% !%$%k$+$i@8@.$5$1$^$7$?:
```

- **RTCDataType.idl**

8.22 9=B\$BN RTM::TimedULongSeq

```
import "RTCDataType.idl";
```

Public JQ?t

- **Time** **tm**
- **sequence**< unsigned long > **data**

8.22.1 JQ?t

8.22.1.1 **sequence**<unsigned long> **RTM::TimedULongSeq::data**

8.22.1.2 **Time** **RTM::TimedULongSeq::tm**

\$3\$N9=B\$BN\$N0hL@SOK \$N%U% !%\$%k\$+\$i@8@.\$5\$1\$^\$7\$?.

- **RTCDataType.idl**

8.23 9=BN RTM::TimedUShort

```
import "RTCDataType.idl";
```

Public JQ?t

- **Time** **tm**
- unsigned short **data**

8.23.1 JQ?t

8.23.1.1 unsigned short RTM::TimedUShort::data

8.23.1.2 Time RTM::TimedUShort::tm

```
$3$N9=BN$N0bL@ $O< $N%U% !%$%k$+$i@8@.$5$1$^$7$?:
```

- **RTCDataType.idl**

8.24 9=B\$BN RTM::TimedUShortSeq

```
import "RTCDataType.idl";
```

Public JQ?t

- **Time tm**
- sequence< unsigned short > **data**

8.24.1 JQ?t

8.24.1.1 sequence<unsigned short> RTM::TimedUShortSeq::data

8.24.1.2 Time RTM::TimedUShortSeq::tm

\$3\$N9=B\$BN\$N@bL@SOK \$N%U% !%\$%k\$+\$i@8@.\$5\$1\$^\$7\$?.

- **RTCDataType.idl**

IU O?A 0MB8%Q%C%1! <%8N '\$N% S%k% I\$K\$ D\$ \$\$F

A.1 ACE \$N% S%k% I

A.1.1 ACE (The ADAPTIVE Communication Environment)

The ADAPTIVE Communication Environment (ACE) \$O%*! <%W% s%!=! <%9\$N%U% j! <\$J%*%V %8% '%/%H; X~%U%1! <% '%o! <%/\$G\$9! #%*%V%8% '%/%H; X~\$rM-8z\$KMxMQ\$9\$k\$?\$a\$N? tB?\$/\$N%G%6%\$ %s%Q%?! <%s\$,E,MQ\$5\$1\$?\$F\$*\$j! "%M% C%H%o! <%/DL? . \$N\$?\$a\$N6 DL\$N4pHW\$rd\$6 \$7\$^\$9! #ACE \$N < \$JFCD9\$O! "

- 0\?"@-\$N8~> e
- %G%6%\$%s%Q%?! <%s\$NE,MQ\$K\$h\$K9bI J< AJ%=%U%H%&% (% "3+H/
- QoS \$N%5%]! <%H
- \$h\$j9b%1%Y%k\$J%_ %I%k%&% (% " (\$?\$H\$ (\$PCORBA) \$N\$?\$a\$N: FMxMQ2DG=\$J%3%\$%]! <%M%\$%H \$c%Q%?! <%s\$ND\$6 !

\$J\$I\$,5 \$2\$I\$1\$^\$9! #

ACE \$CH\$> \$KB?\$/\$N%W%i%C%H%U%)! <% '\$r%5%]! <%H\$7\$F\$*\$j! "%U%i%C%H%U%)! <% '4V\$G [\$J\$k3F < \$N4X? t\$d%9%1%C%I%b%G%k\$r1 #JC\$7! "6 DL\$N%\$%\$%?! <%U% '! <%9\$rd\$6 \$7\$F\$ \$\$^\$9! #AIST-RTM \$O! "ACE \$N%9%1%C%I%b%G%k! "F0E*%i%\$%V%i%j\$NF I\$ _9~\$ _! "; 9o< E@! &7WB,\$K4X\$9\$k5 G=!"3F< o %G%6%\$%s%Q%?! <%s\$rMxMQ\$7\$F< Bu\$5\$1\$F\$ \$\$^\$9! #ACE \$,%5%]! <%H\$7\$F\$ \$\$k%W%i%C%H%U%)! <% '\$O 0J2<\$N\$H\$*\$j\$G\$9! #

! | ACE \$,F0:n2DG=\$J%W%i%C%H%U%)! <% '0lMw

Windows (WinNT 3.5.x, 4.x, 2000, Embedded NT, XP, Win95/98, WinCE)
 \$*\$h\$S3F< @+H/4D6 -(MSVC++, Borland C++ Builder, IBM Visual Age (32-
 , 64-bit Intel/Alpha) Mac OS X, Solaris 1.x, 2.x (SPARC / Intel), SGI IRIX
 5.x, 6.x, DG/UX, HP-UX 9.x, 10.x, 11.x, Tru64UNIX 3.x, 4.x, AIX 3.x,
 4.x, 5.x, UnixWare, SCO, Debian Linux 2.x, RedHat Linux 5.2, 6.x, 7.x, 8x,
 and 9.x, Timesys Linux, FreeBSD, NetBSD, LynxOS, VxWorks, ChorusOS,
 QnX Neutrino, RTEMS, OS9, PSoS, OpenVMS, MVS OpenEdition, CRAY
 UNICOS

A.1.2 ACE \$N% @%&%s% m! <% I

ACE \$*\$h\$SACE \$rMQ\$ \$\$?ORB(TAO) \$O0J2<\$NURL \$GG [I [\$5\$1\$F\$ \$\$^\$9! #

ACE <http://www.cs.wustl.edu/~schmidt/ACE.html>

TAO <http://www.cs.wustl.edu/~schmidt/TAO.html>

0J2 <\$NURL \$+\$i%=<%9%3! <%I\$,%@%&%s%m! <%I\$G\$-\$^\$9! #

<http://deuce.doc.wustl.edu/Download.html>

%=<%9%3! <%I\$Otar.gz, tar.bz, zip 7A< 0G05=I\$5\$1\$F\$ \$\$^\$9! #=\$1\$>\$1! "E,@Z\$JJ)K!\$GE83+\$7
\$^\$9! #

A.1.3 UNIX 70OS \$G\$N% S%k% I

%S%k% I\$O4pK\E*\$KE83+\$7\$?%G%#%1%/%H%j ACE_wrapper \$K\$ "kINSTALL %U% !%\$%k\$N5 =R\$K
=>\$C\$F9T\$C\$F\$/\$@5\$ \$! #< jg\$00J2<\$N\$H\$*\$j\$G\$9! #

- 4D6 JQ?t ACE_ROOT \$N@_Dj
- platform.macros.GNU \$NJT=8
- config.h \$NJT=8
- %S%k% I

A.1.4 4D6-JQ?t ACE_ROOT \$N@_Dj

\$^\$:\$O\$8\$a\$K! "4D6 JQ?t ACE_ROOT \$r@_Dj\$7\$^\$9! #

!Vcsh 7O\$N> 9g!W

\$ setenv ACE_ROOT [E83+\$7\$?%G%#%1%/%H%j]

!Vbash 7O\$N> 9g!W

\$ ACE_ROOT=[E83+\$7\$?%G%#%1%/%H%j]

\$ export ACE_ROOT

A.1.4.1 platform.macros.GNU \$N@_Dj

0J8e! "ACE \$rE83+\$7\$?%G%#%1%/%H%j ACE_wrapper \$r \$ACE_ROOT \$H\$7\$FOC\$r?J\$a\$^\$9! #

platform.macros.GNU \$N@_Dj\$r9T\$ \$\$^\$9! #G%#%1%/%H%j\$ACE_ROOT/include/makeinclude/
Fb\$K! "BPl ~w%i%C%H%U%)! <% 'Kh\$NMakefile MQ% ^%/m\$,MQ0U\$5\$1\$F\$ \$\$^\$9! #3\$3\$G\$O! "Linux \$*
\$h\$S gcc(g++) \$rMQ\$ \$\$F%S%k% I\$9\$k\$b\$N\$H2>Dj\$7\$^\$9! #Linux \$*\$h\$S gcc(g++) \$N% ^%/m\$O

```
platform_linux.GNU $G$9$N$G! "$3$l$r platform.macros.GNU $H$7$F%7%s%\%j%C%/%j%s%/$r
D%$j$^$9! #
```

```
> cd $ACE_ROOT/include/makeinclude/
> ln -s platform_linux.GNU platform.macros.GNU
```

A.1.4.2 config.h 安装

```
< $K! "config.h $N_Dj$rT$T$^$9! #G%#l%/%H%j$ACE_ROOT/ace/ Fb$K! "BFl ~%W%i%C%H%U% )! <
% 'Kh$Nconfig.h $,MQOU$5$1$F$^$9! #W%i%C%H%U% )! <% '$OLinux $H2>Dj$7$F$^$9$N$G! "config.h
$r config-linux.h $X$N%7%s%\%j%C%/%j%s%/$H$7$F:n@.$7$^$9! #
```

```
> cd $ACE_ROOT/ace/
> ln -s config-linux.h config.h
```

A.1.5 编译

```
$3$l$G= 'Hw$,@0$^$7$?! #ACE_ROOT $K0\F'0$7$Fmake $7$^$9! #
```

```
> cd $ACE_ROOT
> make
```

```
ACE $O$+$J$jBg$-$J%7%9%F% '$J$N$G! "%S%k%I$K$O< 43; 4V$,,$+$+$j$^$9! #
```

A.2 boost \$N% S% k% I

A.2.1 The boost C++ Library

boost \$O C++ \$N% F% s% W% 1! <% H% i% \$% V% i% j=8\$ G\$ 9! #C++ \$NI 8= 'E *\$ J% F% s% W% 1! <% H% i% \$% V% i% j\$ H\$ 7\$ F\$ OSTL \$, \$ " \$ j\$ ^\$ 9\$, ! "boost \$O\$ 5\$ i\$ K6 M\$ JI 8= ' % i% \$% V% i% j\$ r5 \$ a\$ F! " I 8= '2=0Q0w2q \$N% a% s% P! <C# \$, N)\$ A> \$ 2\$?% W% m% 8% ' % /% H\$ K\$ h\$ C\$ F3 +H /\$ 5\$ l\$ F\$ \$ \$ k% F% s% W% 1! <% H% i% \$% V% i% j=8\$ G\$ 9! # \$ 7\$?\$, \$ C\$ F! "boost \$O< \$NC++ \$NI 8= ' % i% \$% V% i% j\$ H\$ J\$ k\$ +\$ b\$ 7\$ l\$ ^\$;\$ s! #

8=: _\$N\$ H\$ 3\$ m\$ OI 8= '\$ G\$ O\$ J\$ \$ \$ N\$ G! "\$ [\$ H\$ s\$ I\$ N3 +H /4D6 \$ K\$ OI UB O\$ 7\$ F\$ \$ \$ ^\$;\$ s\$ N\$ G! "F ~\$ C\$ F\$ \$ \$ J\$ l\$ l\$ P< \$, \$ G% S% k% I! &% \$% s% 9% H! <% k\$ 7\$ J\$ l\$ l\$ P\$ J\$ j\$ ^\$;\$ s! #

% S% k% I\$ H\$ \$ \$ C\$ F\$ b! "boost \$O\$ [\$ H\$ s\$ I\$, % F% s% W% 1! <% H% i% \$% V% i% j\$ J\$ N\$ G! "% X% C% 8\$ r% \$% s% 9% H! <% k\$ 9\$ 9\$ k\$ 8\$ l\$ G% S% k% I\$ 9\$ KI , MW\$ N\$ J\$ \$ \$ b\$ N\$, \$ [\$ H\$ s\$ I\$ G\$ 9! # \$ 7\$ +\$ 7! "OpenRTM \$ G\$ Oboost \$N @55 J=8= % i% \$% V% i% j\$ r; MQ\$ 7\$ F\$ *\$ j! "\$ 3\$ l\$ O% 3% s% Q% \$% k\$, I , MW\$ Jboost % i% \$% V% i% j\$ N\$ R\$ H\$ D\$ G\$ 9\$ N\$ G! "boost \$r% S% k% I\$ 9\$ KI , MW\$, \$ " \$ j\$ ^\$ 9! #0J2 <\$ G\$ O! "boost \$N% S% k% I\$ N; E }\$ r=g\$ rDI\$ C\$ F@b L@ \$ 7\$ ^\$ 9! #

\$ J\$ *! "; MQ\$ 7\$ F\$ \$ \$ k% 7% 9% F% '\$ N% Q% C% 1! <% 8\$ Kboost \$, 4 ^\$ ^\$ l\$ F\$ \$ \$ k> \$ q\$ K\$ C\$ = \$ l\$ rMxMQ\$ 7\$ F\$ b\$ h\$ \$ \$ G\$ 7\$ g\$ &! #

A.2.2 % @% &% s% m! <% I

<http://www.boost.org/> \$N "Download" % a% k% e! <\$ +\$ i boost \$r% @% &% s% m! <% I\$ 7\$ F\$ /\$ 8\$ 5\$ \$! #
% @% &% s% m! <% I\$ 7\$?% =! <% 9% 3! <% I\$ rE 83 +\$ 7\$ ^\$ 9! #

```
> tar vxzf boost_1_32_0.tar.gz
```

A.2.3 bjam \$N% S% k% I

\$ ^\$:! "boost \$N% S% k% I% D! <% k bjam \$r% S% k% I\$ 7\$ ^\$ 9! #bjam \$N% S% k% I\$ OI UB O\$ N build.sh \$ K\$ h\$ j9 T\$ \$ \$ ^\$ 9! # \$?\$ \$ \$ F\$ \$ \$ N> \$ q\$ O! "E , @Z\$ K4D6 \$ rH=C\$ 7\$ F< F O E *\$ K% S% k% I\$ r9 T\$ \$ \$ ^\$ 9! #

```
> cd boost_1_32_0
> cd tools/build/jam_src
> ./build.sh
: (% S% k% I$ 5$ l$ k)
> ls bin.(system_name)
> ls bin.linuxx86 : Nc
> ls
bjam*          jam*          mkjambase*    yyacc*
> cd - (boost %=! <% 9$ N% H% C% W% F% #% l% /% H% j$ KLa$ k)
```

```
%$%k%I$5$1$?%P%$%J%j$O bin.(system_name) $N%G%#%l%/%H%jFb$K$*$+$1$^$9! #
```

A.2.4 boost \$N%\$k%I

```
$^$:! "boost $NPython 3HD%i%$%V%i%j$r%$%k%I$9$K$?a$K$Otools/build/v1/python.jam
$Gj5 A5$1$F$ $$k! "PYTHON_VERSION $rE,@Z$J%P! <%8%g%$sK@_Dj$9$KI,MW$,,$ "$j$^$9! #> 6 $N
%P! <%8%g%$sG$O%G%U%)%k%H$O Python2.2 $r; MQ$9$K$h$&$K$J$C$F$ $$^$9! #
```

```
$=$NB>$N@_Dj$K$D$ $$F$O! "IUB0$N%I%-e%a%$HEy$r; 2 H7$F$/ $@5$ $! #
```

```
bjam $K$h$kb boost $N%$k%I$OJ2<$N$h$&$K9T$ $$^$9! #
```

```
> tools/build/jam_src/bin.(%7%9F% 'L>)/bjam -sTOOLS=gcc \
--prefix=/usr/local -sPYTHON_ROOT=/usr -sPYTHON_VERSION=2.3
:
%$%k%I$,, $^$k
:
```

```
$3$3$G$O! "boost $N%$%$%9%H! <%k%G%#%l%/%H%j$r/usr/local/[include|lib] $H$7! "Python
$N%$%$%9%H! <%k%G%#%l%/%H%j$r/usr! "Python $N%P! <%8%g%$s$2.3 $H$7$F%$%k%I$7$F$ $$^$9! #: Y
$+$%$%$%k%I$*%W%7%g%$sK$D$ $$F$O! "IUB0$N%I%-e%a%$H$r; 2 H7$F$/ $@5$ $! #
```

```
%$%k%I$O CPU $NB.EY$K$b0M$ j$^$9$,! "Pen4 ?t GHz Dx$EY$N% ^%7%$s$G?t==J,$ [$I$+$+$k$G
$7$g$&! #
```

A.2.5 boost \$N%\$%\$%9%H! <%k

```
:@e$Kroot $K$J$j! "%$%$%9%H! <%k$r9T$ $$^$9! #
```

```
> su
# tools/build/jam_src/bin.(%7%9F% 'L>)/bjam -sTOOLS=gcc \
--prefix=/usr/local -sPYTHON_ROOT=/usr -sPYTHON_VERSION=2.3 install
:
%$%$%9%H! <%k$5$1$k
:
```

```
%$%$%9%H! <%k$5$1$? boost $N6 H-%i%$%V%i%j$O! "libboost_regex-gcc-1_32.so.1.32.0 $d
libboost_regex-gcc-1_32.so $J$I$N%P! <%8%g%$sL>! "%$%k%I$D! <%kL>$r4^$s$@L>A0$G%$%$%9
%H! <%k$5$1$k> 9g$,,$ "$j$^$9! #=$&$ $$&> 9g$K$O! "
```

```
# cd /usr/local/lib
# ln -s libboost_regex-gcc-1_32.so.1.32.0 libboost_regex.so
```

\$N\$h\$ &\$K! % 7% s% \% j% C% /% j% s% /\$ rD% C\$ F\$ d\$ kI, MW\$, \$ " \$k\$ +\$ b\$ 7\$ l\$ ^\$;\$ s! #H\$ /\$ KOpenRTM \$r%3
% s% Q% \$% k\$ 9\$ k:]\$ K\$ O> \$ J\$ /\$ H\$ b libboost_regex.so \$, I, MW\$ H\$ J\$ j\$ ^\$ 9\$ N\$ G! "/usr/local/lib
\$d /usr/lib \$N <\$ K libboost_regex.so \$, B8: _\$ 9\$ kI, MW\$, \$ " \$ j\$ ^\$ 9! #

A.3 omniORB \$N%\$%k%I

A.3.1 omniORB

omniORB \$O! 'ORB (object request broker) \$K= '5 \$ 7\$? CORBA (Common Object Request Broker Architecture) 2.6 \$N%U%j! <\$J< B\$u\$G\$9! #b\$b\$H\$b\$H\$O AT&T Lab. \$G3+H/\$5\$1\$F\$ \$\$^\$7 \$?\$, ! "AT&T 8&5 非j\$NJD: ?\$K\$H\$b\$J\$ \$! "sourceforge \$K% [%9%H\$5\$1\$k\$h\$&\$K\$J\$ j\$^\$7\$?! #U%j! <\$J CORBA < B\$u\$Ncf\$G\$bomniORB \$O TAO \$dMICO \$J\$ I\$KHf\$Y\$k\$H CORBA %5! <%S%9N '\$, > \$J\$ \$\$H\$ \$\$C\$?%G%a%j%C%H\$, \$ "\$j\$^\$9\$, ! "\$b\$C\$H\$b%Q%U%) ! <%^s%9\$, 9b\$ /! "%9%T! <%I\$, B.\$\$< B Au\$H\$ \$\$o\$ 1\$F\$ \$\$^\$9! #

A.3.2 omniORB \$N%Q%&%s%ml <%I

omniORB \$NB+H/\$Osourceforge \$G T\$ o\$ 1\$F\$ \$\$^\$9\$N\$G! "%=! <%9%3! <%I\$OomniORB \$Nsourceforge %5%\$H> \$Nhttp://omniORB.sourceforge.net/ \$+\$i%Q%&%s%ml <%I\$G\$-\$^\$9! #google \$J \$I\$GomniORB \$r8!:w\$9\$k\$H\$?\$^\$KQ\$N\$N AT&T Lab. \$N%Z! <%8\$K\$?\$I\$Jce/\$3\$H\$, \$ "\$j\$^\$9\$N \$G4V0o\$ (\$J\$ \$\$h\$&\$K\$ 7\$F\$ /\$Q\$5\$ \$! #

%Q%&%s%ml <%I\$ 7\$?%=! <%9%3! <%I\$rG\$0U\$N%G%#%1%/%H%j\$KE83+\$7\$^\$9! #

```
> tar vxzf omniORB-4.0.5.tar.gz
> cd omniORB-4.0.5
```

A.3.3 omniORB \$N%\$%k%I

86B '\$H\$ 7\$FTUB0\$N%I%-%e%a%\$H\$K\$ 7\$?\$, \$C\$F%\$%k%I! &%\$%s%9%H! <%k\$r9T\$ \$\$^\$9! #

0J2<\$K! "4JC1\$J< j\$G\$r< \$ 7\$^\$9! #omniORB \$N%=! <%9%G%#%1%/%H%j2<\$K\$*\$\$F! "0J2<\$N\$h\$&\$J < j\$G\$G%\$%k%I\$ 7\$^\$9! #1K\E*\$K\$Oautoconf, automake \$rMxMQ\$ 7\$F\$ \$\$k\$N\$G./configure; make \$N\$_G%\$%k%I\$G\$-\$k\$O\$:G\$9! #

build %G%#%1%/%H%j\$O! "configure %3%^s%I\$K\$h\$C\$FQ8Q.\$5\$1\$k%\$%s%9%H! <%kMQ\$N%=! <%9 %U%!%\$%k! "%*%V%8%'/%H%U%!%\$%k\$rJJB8\$9\$k\$?\$a\$K:nQ.\$ 7\$^\$9! #3\$1\$O%~K%e "%k\$G\$b?> \$5 \$1\$F\$ \$\$k\$J\$K!\$G\$9! #

```
> tar vxzf omniORB-4.0.5.tar.gz
> cd omniORB-4.0.5
> mkdir build
> ../configure [options]
```

configure %3%^s%I\$N< \$J%*%W%7%g\$s\$r0J2<\$K< \$ 7\$^\$9! #

configure %*%W%7%g\$s

```

--prefix=dir          %$%s%9%H! <%k@h$N%G%$%l%/%H% j$r@_D j$ 7$ ^$9! #
--disable-static      @EE *$J% i% $%V% i% j$K$h$ k% S%k% I$ r6  X  7$ ^$9! #
--enable-thread-tracing
omniORB $K$ *$ 1$k%9%l%C% I$N%P%0$ rH/8 +$ 7$d$9
$/ $ 7$ ^$9! #(%G%U% )%k%H) $ ?$ @ $ 7< BT%Q%U% )! <% ^%s
%9$ rB ?>  D2 <$ 5$ ;$ k$N$G! "$=$ &$ 7$ ?$ /$J$ $>  9$K
$O! "--disable-thread-tracing %*%W%7%g% s$ r
; MQ$ 7$F$ /$ @ $ 5$ $! #

--with-openssl=dir    openssl $r; MQ$ 9$ k>  9$K! "openssl $N% $%s%9
%H! <%k$ 5$ 1$ ?%G%$%l%/%H% j$r;  7$ 7$ ^$9! #

--with-omniORB-config=dir/file
omniORB @_D j%U% !% $%k$N>  7$H%U% !% $%kL>$r; X
Dj$ 7$ ^$9! #%G%U% )%k%H$O /etc/omniORB.cfg $G
$9! #

--with-omniNames-logdir=dir/file
omniORB %n%0%U% !% $%k$N>  7$H%U% !% $%kL>$r; X
Dj$ 7$ ^$9! #%G%U% )%k%H$O /var/omniNames $G$9! #

```

A.3.4 omniORB \$N% \$%s%9%H! <%k

```
build %G%#%l%/%H% j2<$Groot $K$J$ j make install $G%$%s%9%H! <%k$ 7$ ^$9! #
```

```

> su
# make install

```

: w 0 z

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<code>_do_func</code>	<code>RTM::RtcBase, 126</code>	<code>RTM::RtcBase, 111</code>
<code>_entry_func</code>	<code>RTM::RtcBase, 126</code>	<code>RTM::RtcBase, 111</code>
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<code>_rtc_active</code>	<code>RTM::RtcBase, 110</code>	<code>RTM::OutPortAny, 153</code>
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