

# Performance Validator

Running - Performance Validator x64 (Evaluation Version) -

File Launch Edit Settings Managers Tools Data Views Help

Callstack Statistics Relations Call Tree Call Graph Analysis Line Times Diagnostic Tutorials

Class::Method	Call Count	Call Cou...	Function	Function...	Children	Child
get_direction_array	918,630	2.42%	88,022.02	31.17%	0.00	
distribution2::get_i_xmin	1,289,981	3.40%	25,886.22	9.17%	0.00	
distribution2::get_i_xmax	1,290,569	3.40%	25,827.70	9.14%	0.00	
DBVALU	224,960	0.59%	14,603.33	5.17%	3,516.22	
distribution2::inter2_Old	442,964	1.17%	11,313.35	4.01%	64,621.75	
distribution2::inter2_New	442,965	1.17%	8,613.30	3.05%	66,188.76	
DINTRV	269,952	0.71%	5,316.38	1.88%	0.00	
distribution::find_sigma_distrib...	15,961	0.04%	3,912.59	1.39%	1,535.13	
distribution::clear_flags	825,815	2.18%	3,192.12	1.13%	0.00	
distribution::NN	2,599,919	6.85%	2,663.75	0.94%	0.00	
distribution2::get_direction	918,058	2.42%	2,393.66	0.85%	88,908.90	
s_me_table::GetMeTable	367,479	0.97%	2,326.88	0.82%	774.45	
find_line	657,899	1.73%	2,272.64	0.80%	0.00	
distribution2::inter2_p2_local	377,466	0.99%	2,235.97	0.79%	722.93	
distribution2::inter2	442,965	1.17%	2,166.83	0.77%	150,737.16	
distribution::XI	2,173,150	5.73%	2,157.70	0.76%	0.00	
distribution2::XI	2,039,344	5.37%	2,121.51	0.75%	0.00	
distribution2::inter2PlusExtrapo...	382,160	1.01%	2,082.36	0.74%	149,103.30	
distribution2::get_xmax	1,289,736	3.40%	2,004.55	0.71%	25,810.95	
distribution2::alignB	11,434	0.03%	1,985.65	0.70%	154,611.20	
distribution2::get_xmin	1,289,950	3.40%	1,916.39	0.68%	25,885.62	
range	16,715	0.04%	1,909.43	0.68%	34,156.94	
ValueErr::ValueErr	1,840,842	4.85%	1,779.45	0.63%	0.00	
Compound::GetFlac	582,507	1.54%	1,626.09	0.58%	648.91	

Filename: C:\LISEcute\L\_Distribution\L\_Distr2.cpp Line 165  
 Function: get\_direction\_array  
 Module: c:\LISEcute\instal\_MSVC\LISE++\_MSVC.exe  
 Address: 0x00007f7d13e47a0 **Call Count: 852,608**

**Total time**  
 (Av. 0.10) 81,275.55  
 (Av. 0.00%) = 30.70%

**Shortest / Longest**  
 0.07 / 1.25  
 (Av. 0.00%) = 0.00%

**Function time**  
 (Av. 0.10) 81,275.55  
 (Av. 0.00%) = 30.70%

**Runtime**  
 264,724.70

**Child time** (0 children)  
 0.00

Display Line Times

```

150 0 0.00 if( (FileDebugDistr=mfopen(NameFileDebugDistr , "wt+"))=
151 0 0.00 OpenFlagPrintToFile=1;
152 0 0.00 }
153
154 0 0.00 if( OpenFlagPrintToFile)
155
156 0 0.00 {
157 0 0.00 fprintf(FileDebugDistr, "%s\t%f\t%f\t%f\t%f\t%s\t%s", na
158 0 0.00 for(int i=0; i <= N; i++)fprintf(FileDebugDistr, "\t%f"
159 0 0.00 fprintf(FileDebugDistr, "\n");
160 //endif
161 }
162 //%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
163 //%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
164
165 852,608 81,275.55 int get_direction_array(double *axis, int points) // -1 - n
166 867,713 296.47 double sum_abs=0;
167 867,714 295.42 double sum_sim=0;
168
169 double *p1, *p0;
170
171 867,714 300.12 p1= &axis[1];
172 867,715 296.19 p0= &axis[0];
173
174 867,715 296.19 for(int i=0; i<points-1; i++)
175 {
176 867,766,880 9,408.84 double dif = *p1 - *p0;
177 867,766,880 9,414.37 sum_abs += dif>0 ? dif : -dif;
178 867,766,880 9,377.09 sum_sim += dif;
179 867,766,880 9,361.50 p0 = p1; p1++;
180 867,766,880 9,393.98 }
181

```

Ready 0 | 16,919 | 22,254 | 1,627 CollectOn Running LISE++ MSVC.exe

# Set Up

Attach to running process wizard

You have selected the process shown below to attach to.

6492 c:\LISEcute\\_install\_MSVC\LISE++\_MSVC.exe

**LISE++\_MSVC.exe Native instrumentation only**

If you want to collect data from the application from the instant that Performance Validator attaches to the process, select the Collect data from application check box.

Collect data from application

If you want to collect performance data about function times, select the Collect function times check box.

Collect function times

If you want to collect performance data about line times, select the Collect line times check box.

Collect line times

Click the Attach button to attach to the selected process.

<< Prev Attach... Close

**Symbol Load Preferences**

Choose which symbol formats you want to check for when loading symbols.

Select your compiler / IDE, or edit a custom definition.

Custom 1

- PDB. Load PDB symbols for operating system DLLs.
- PDB. Load PDB symbols for application .EXE and DLLs.
- TDS. Load TDS symbols for application .EXE and DLLs.
- DWARF. Load DWARF symbols for application .EXE and DLLs.
- STABS. Load STABS symbols for application .EXE and DLLs.
- COFF. Load COFF symbols for application .EXE and DLLs.
- MAP. Load symbols from a MAP file for application .EXE and DLLs.

## Run

Run configuration: LISEcute Add... Remove

Executable: c:\LISEcute\\_install\_MSVC\LISE++\_MSVC.exe

Command line arguments: -g

Working directory: c:\LISEcute\\_install\_MSVC

Run in terminal

Add build library search path to PATH

# Statistics + Source Code View

Num ...	Av Func	Av Fu...	Av Total	Av Tot...	Call C...	Call Cou...
---------	---------	----------	----------	-----------	-----------	-------------

Attribute	Description
Num Children	# of child functions
Av Function	Average time a function takes to execute
Av Total	Average total time a function + child functions takes to execute
Call Count	# of times a function is called
Function	Time it takes a function to execute
Children	Time a function's child functions take to execute
Total	Time a function + child functions take to execute
Longest	Longest time a function + child functions take to execute
Shortest	Shortest time a function + child functions take to execute

**Filename:** C:\LISEcute\L\_Distribution\L\_Distr2.cpp Line 165  
**Function:** get\_direction\_array  
**Module:** c:\LISEcute\install\_MSVC\LISE+\_MSVC.exe  
**Address:** 0x00007f7d13e47a0

**Call Count:** 1,775,419

**Total time**  
 (Av. 0.10) 181,881.03  
 (Av. 0.00%) 30.91%

**Shortest / Longest**  
 0.07 / 1.25  
 0.00% 0.00%

**Function time**  
 (Av. 0.10) 181,881.03  
 (Av. 0.00%) 30.91% 0.00%

**Runtime:** 588,474.29  
**Child time:** (0 children) 0.00

Display Line Times

150	0	0.00
151	0	0.00
152	0	0.00
153		
154	0	0.00
155		
156	0	0.00
157	0	0.00
158	0	0.00
159		
160		
161		
162		
163		
164		
165	2,990,416	324,122.63
166	3,013,062	1,176.08
167	3,013,062	1,170.66
168		
169		
170		
171	3,013,063	1,192.68
172	3,013,063	1,175.19
173		
174	3,013,063	1,174.81
175		
176	96,418,016	37,351.81
177	96,418,021	37,379.44
178	96,418,036	37,229.01
179	96,418,048	37,169.87
180	96,418,048	37,242.41
181		

The top bar shows **total function times** (including children):

- Average total function time relative to runtime
- Total function time relative to runtime

The second bar shows the **range of times for individual function calls**, including children:

- Shortest function time relative to runtime
- Longest function time relative to runtime

The last bar shows the segmentation of **time in function and in child functions**:

- Average time in function relative to runtime
- Total time in function relative to runtime
- Total time in child functions relative to runtime

```

if( (FileDebugDistr=fopen(NameFileDebugDistr, "wt+"))=
OpenFlagPrintToFile=1;
}
}
if( OpenFlagPrintToFile)
{
fprintf(FileDebugDistr, "%s\t%f\t%f\t%f\t%f\t%s\t%s", na
for(int i=0; i <= N; i++)fprintf(FileDebugDistr, "\t%f"
fprintf(FileDebugDistr, "\n");
}
}
//endif
//%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
//%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
int get_direction_array(double *axis, int points) // -1 - n
{
double sum_abs=0;
double sum_sim=0;

double *p1, *p0;

p1= &axis[1];
p0= &axis[0];

for(int i=0; i<points-1; i++)
{
double dif = *p1 - *p0;
sum_abs += dif>0 ? dif : -dif;
sum_sim += dif;
p0 = p1; p1++;
}
    
```

Visit count | Time

# Relations

Most called and most time consuming functions

Class::Method	Children	Children %	Total	Total %	Module
MainWindow::CmTransAll	1,457,911.43	99.48%	1,457,911.43	99.48%	lise++_msvc.exe
nucleusReglage	1,444,834.10	98.58%	1,444,834.10	98.58%	lise++_msvc.exe
c_rendmom	1,358,509.46	92.69%	1,358,509.46	92.69%	lise++_msvc.exe
transmission	1,352,900.15	92.31%	1,352,901.08	92.31%	lise++_msvc.exe
tab_range	110,295.58	7.53%	110,311.95	7.53%	lise++_msvc.exe
trans_ChargeState	1,365,994.69	93.20%	1,365,994.69	93.20%	lise++_msvc.exe

Promote

Promote All

Functions called by function: MainWindow::CmTransAll

Class::Method	Call Count	Call Cou...	Function	Function...	Children	Ch
Celement::equal	925,503	0.55%	5,855.29	0.40%	4,760.71	
Celement::Z	3,546,507	2.10%	4,423.20	0.30%	0.00	
Celement::Celement	819,116	0.49%	1,463.80	0.10%	9,341.59	
Celement::N	961,875	0.57%	1,212.48	0.08%	0.00	

Promote

Promote All

Callers of function: MainWindow::CmTransAll

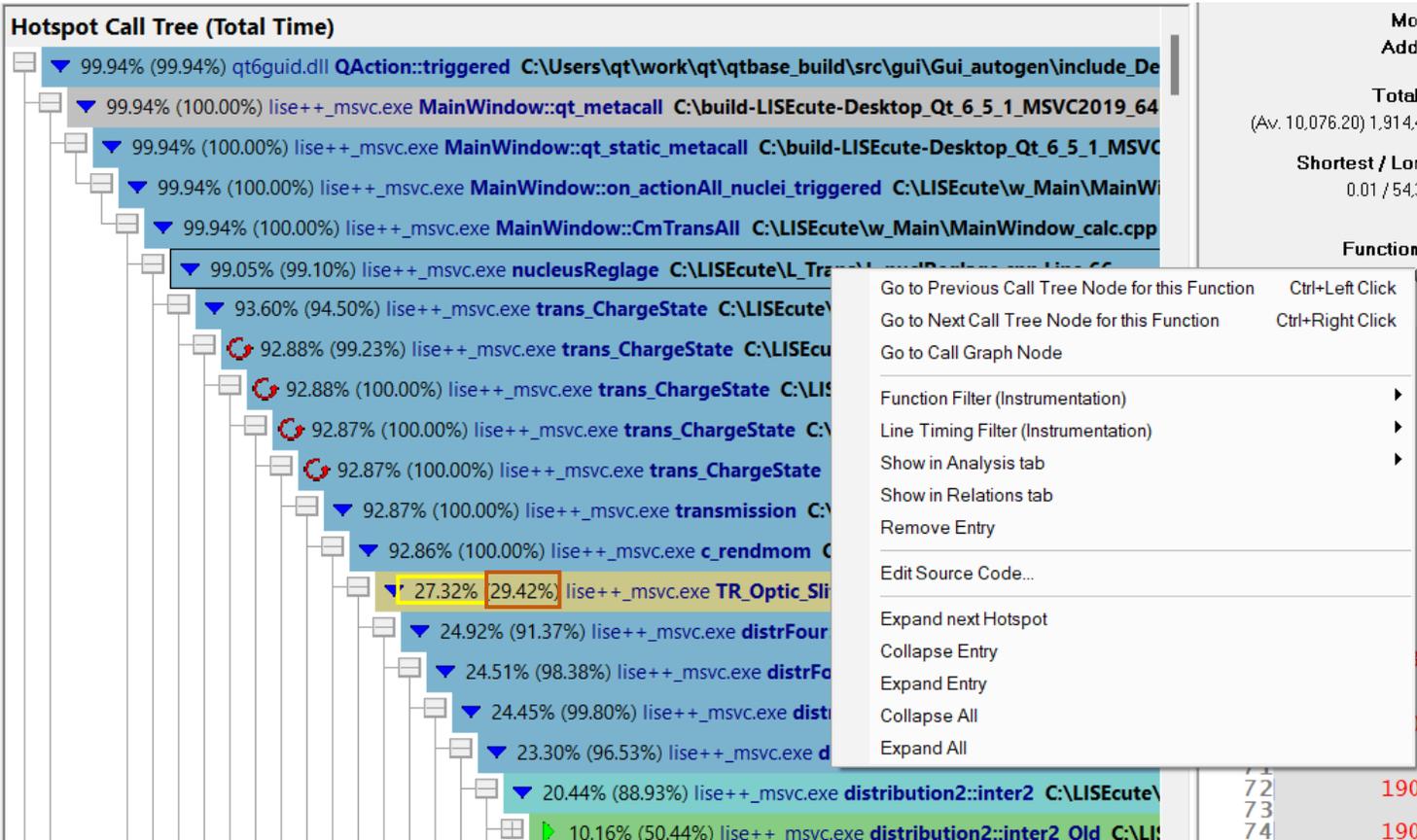
Class::Method	Call Count	Call Cou...	Function	Function...	Children	Child
MainWindow::on_actionAll_nuc...	1	0.00%	0.00	0.00%	0.00	

Display:

Av. Total Time	▼
Call Count	
Function Time	
Total Time	
Av. Total Time	
Av. Func Time	

109			
110	3,546,507	4,423.20	int Z() const {return z;};
111	961,875	1,212.48	int N() const {return n;};
112	2,877,644	3,599.48	int A() const {return a;};
113	142	0.25	int Q() const {return q;};
114			
115	57,994	71.38	void ChangeVerify(bool v){Verify=v;};
116	57,994	70.30	bool GetVerify() const {return Verify;};
117			
118	1,039,689	1,296.14	double Zd() const {return double(z);};
119	4,916	5.92	double Nd() const {return double(n);};
120	2,209,067	2,709.61	double Ad() const {return double(a);};
121	71,934	97.18	double Qd() const {return double(q);};
122			
123	517	0.68	void SetQ(int q_init) {q=q_init;};
124			bool IsPrimaryBeam();
125	1,310,619	1,613.96	bool IsGamma() {return (z==0 && n==0);};
126			

# Call Tree



## Call tree colours

The tree is coloured using the customisable [Hotspot Colours settings](#) that range from 100% down to 0%.

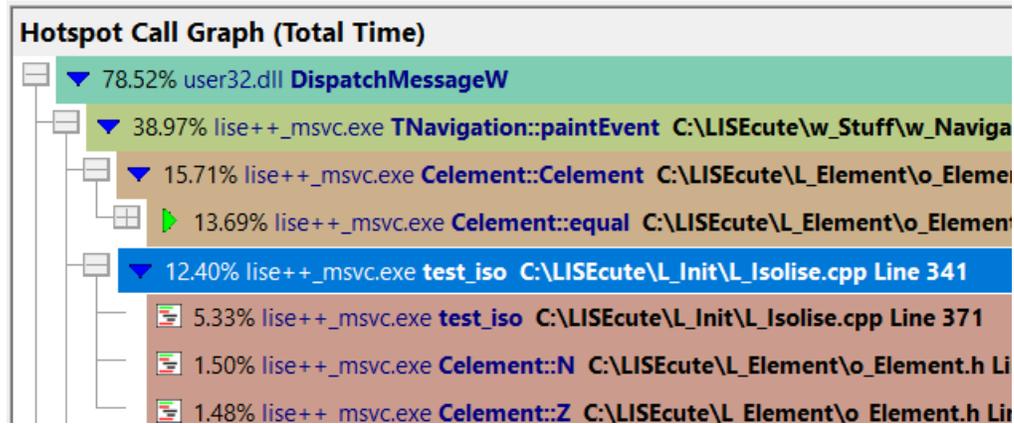


TR\_Optic\_Slit -> Contributed **29.42%** of its parent's function time  
Contributed **27.32%** to total run time

# Call Graph

Sort:

- Total Time
- Call Count
- Total Time
- Average Time



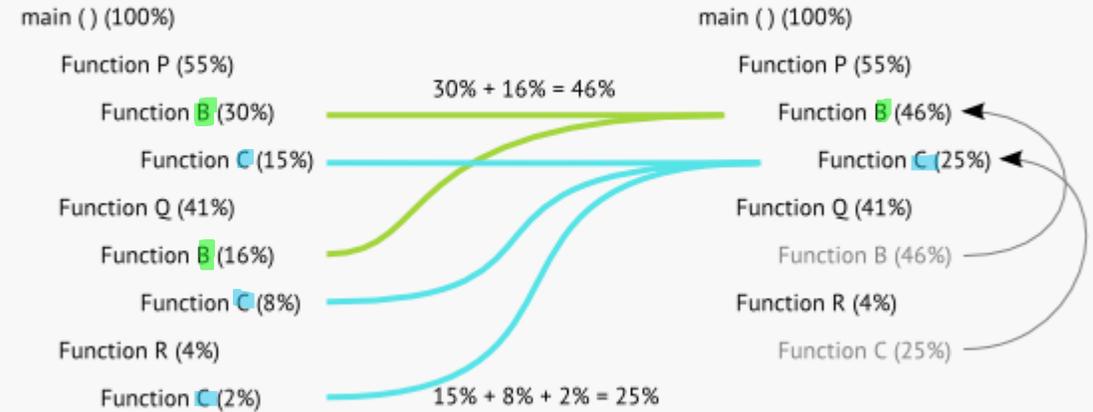
Multiple locations

vs.

Once

A Call Tree

A Call Graph



Percentages in tree and graph both show contribution to total run time

# Analysis + Line Times

Query Type: Most Time Consuming Hotspots

Function:

Comparison:

Range:

Search

**Hotspots**

- Class
- Function
- File name
- Module name
- Address
- Number of children
- Average Total Time
- Average Total Time %
- Total Time
- Total Time %
- Function Time
- Function Time %
- Child Functions Time
- Child Functions Time %
- Longest Time
- Longest Time %
- Shortest Time
- Shortest Time %
- Visit Count
- Visit Count %
- Most Visited Hotspots
- Most Time Consuming Hotspots**
- Number of descendants
- Number of ascendants
- Distance to root
- Distance to leaf
- Recurring function
- Recurring function depth

24.50% (90.69%) lise++\_msvc.exe distrFour::ChangeBase C:\LISEc

24.10% (98.36%) lise++\_msvc.exe distrFour::MakeUniform C:\LISE

24.04% (99.80%) lise++\_msvc.exe distribution2::alignB C:\LISE

22.91% (96.54%) lise++\_msvc.exe distribution2::inter2PlusEx

20.10% (88.94%) lise++\_msvc.exe distribution2::inter2 C:\

1.25% (5.53%) lise++\_msvc.exe distribution2::get\_xmax C

1.25% (5.52%) lise++\_msvc.exe distribution2::get\_xmin C

0.00% (0.01%) lise++\_msvc.exe distribution2::get\_i\_xmax

File	Visit Count	Total
C:\LISEcute\L_Distribution\o_Distr2.h	66	0.68
C:\LISEcute\L_Dbf\d_getrec.cpp	11,820	20.77
C:\LISEcute\L_Dbf\d_getfld.cpp	12,760	7.62
C:\LISEcute\L_Dbf\d_delrec.cpp	0	0.00
C:\LISEcute\L_Dbf\d_cpyst.cpp	0	0.00
C:\LISEcute\L_Dbf\d_addr.cpp	0	0.00
C:\LISEcute\L_Calise\L_Charges_optimum.cpp	340	0.31
C:\LISEcute\L_Calise\L_Charges_global.cpp	703	3,006.81