

cdnlink_dns

Design Description

Erwin

cdnlink_dns: Design Description

Erwin

Publication date 22-Mar-2015 19:24:39

Copyright © 2015

For Internal Distribution Only

Table of Contents

1. Model Version	1
2. Root System	2
2.1. Blocks	2
2.1.1. Parameters	2
2.1.2. Block Execution Order	3
3. Subsystems	11
3.1. 1	12
3.1.1. Blocks	12
3.2. 1	15
3.2.1. Blocks	15
3.3. 1	18
3.3.1. Blocks	18
3.4. 1	21
3.4.1. Blocks	21
3.5. 1	24
3.5.1. Blocks	24
3.6. 1	27
3.6.1. Blocks	27
3.7. 2	30
3.7.1. Blocks	30
3.8. 2	33
3.8.1. Blocks	33
3.9. 2	36
3.9.1. Blocks	36
3.10. background	39
3.10.1. Blocks	39
3.11. Client	41
3.11.1. Blocks	41
3.12. Client_1	44
3.12.1. Blocks	44
3.13. Client_2	73
3.13.1. Blocks	73
3.14. Client_3	95
3.14.1. Blocks	96
3.15. Client_4	116
3.15.1. Blocks	116
3.16. Client_5	136
3.16.1. Blocks	137
3.17. DNS_Server_1	156
3.17.1. Blocks	157
3.18. Response_Time	165
3.18.1. Blocks	165
3.19. Router	179
3.19.1. Blocks	179
3.20. Server_1	194
3.20.1. Blocks	194
3.21. Server_2	199
3.21.1. Blocks	200
3.22. Utilities	204
3.22.1. Blocks	205
4. Requirements Traceability	206

5. System Model Configuration	207
6. Glossary	221
7. About this Report	222
7.1. Report Overview	222
7.2. Root System Description	222
7.3. Subsystem Descriptions	223
7.4. State Chart Descriptions	223

List of Figures

2.1. cdnlink_dns	2
3.1. cdnlink_dns/Client/Client_1/ 1	12
3.2. cdnlink_dns/Client/Client_2/ 1	15
3.3. cdnlink_dns/Client/Client_3/ 1	18
3.4. cdnlink_dns/Client/Client_4/ 1	21
3.5. cdnlink_dns/Client/Client_5/ 1	24
3.6. cdnlink_dns/Router/ 1	27
3.7. cdnlink_dns/DNS_Server_1/ 2	30
3.8. cdnlink_dns/Server_1/ 2	33
3.9. cdnlink_dns/Server_2/ 2	36
3.10. cdnlink_dns/background	39
3.11. cdnlink_dns/Client	41
3.12. cdnlink_dns/Client/Client_1	44
3.13. cdnlink_dns/Client/Client_2	73
3.14. cdnlink_dns/Client/Client_3	95
3.15. cdnlink_dns/Client/Client_4	116
3.16. cdnlink_dns/Client/Client_5	136
3.17. cdnlink_dns/DNS_Server_1	156
3.18. cdnlink_dns/background/Response_Time	165
3.19. cdnlink_dns/Router	179
3.20. cdnlink_dns/Server_1	194
3.21. cdnlink_dns/Server_2	199
3.22. cdnlink_dns/background/Utilities	204

List of Tables

2.1. "AvgDelay SQ12" Parameters	2
2.2. "From10" Parameters	2
3.1. "Arrival Time" Parameters	12
3.2. MATLAB Function Function Properties	13
3.3. MATLAB Function Argument Summary	13
3.4. MATLAB Function Supporting Functions	13
3.5. "Router-based Average RTT" Parameters	14
3.6. "Uniform Random Number" Parameters	14
3.7. "Arrival Time" Parameters	15
3.8. MATLAB Function Function Properties	16
3.9. MATLAB Function Argument Summary	16
3.10. MATLAB Function Supporting Functions	16
3.11. "Router-based Average RTT" Parameters	17
3.12. "Uniform Random Number" Parameters	17
3.13. "Arrival Time" Parameters	18
3.14. MATLAB Function Function Properties	19
3.15. MATLAB Function Argument Summary	19
3.16. MATLAB Function Supporting Functions	19
3.17. "Router-based Average RTT" Parameters	20
3.18. "Uniform Random Number" Parameters	20
3.19. "Arrival Time" Parameters	21
3.20. MATLAB Function Function Properties	22
3.21. MATLAB Function Argument Summary	22
3.22. MATLAB Function Supporting Functions	22
3.23. "Router-based Average RTT" Parameters	23
3.24. "Uniform Random Number" Parameters	23
3.25. "Arrival Time" Parameters	24
3.26. MATLAB Function Function Properties	25
3.27. MATLAB Function Argument Summary	25
3.28. MATLAB Function Supporting Functions	25
3.29. "Router-based Average RTT" Parameters	26
3.30. "Uniform Random Number" Parameters	26
3.31. MATLAB Function Function Properties	27
3.32. MATLAB Function Argument Summary	27
3.33. MATLAB Function Supporting Functions	28
3.34. "Rate Factor" Parameters	28
3.35. "Service time" Parameters	28
3.36. "Uniform Random Number1" Parameters	29
3.37. "Arrival Time" Parameters	30
3.38. MATLAB Function Function Properties	31
3.39. MATLAB Function Argument Summary	31
3.40. MATLAB Function Supporting Functions	31
3.41. "Rate Factor" Parameters	32
3.42. "Uniform Random Number" Parameters	32
3.43. "Arrival Time" Parameters	33
3.44. MATLAB Function Function Properties	34
3.45. MATLAB Function Argument Summary	34
3.46. MATLAB Function Supporting Functions	34
3.47. "Rate Factor" Parameters	35
3.48. "Uniform Random Number" Parameters	35
3.49. "Arrival Time" Parameters	36

3.50. MATLAB Function Function Properties	37
3.51. MATLAB Function Argument Summary	37
3.52. MATLAB Function Supporting Functions	37
3.53. "Rate Factor" Parameters	38
3.54. "Uniform Random Number" Parameters	38
3.55. "Goto4" Parameters	39
3.56. "Mux4" Parameters	39
3.57. "Rate Factor" Parameters	39
3.58. "Surrogate_1" Parameters	40
3.59. "Surrogate_2" Parameters	40
3.60. "To File" Parameters	40
3.61. "client_attr" Parameters	42
3.62. "From_Router_1" Parameters	42
3.63. "Path_Combiner" Parameters	43
3.64. "To_Router_1" Parameters	43
3.65. "Destination dns" Parameters	44
3.66. "Destination dns1" Parameters	45
3.67. "Destination dns2" Parameters	46
3.68. "Display1" Parameters	46
3.69. "Display10" Parameters	46
3.70. "Display11" Parameters	47
3.71. "Display12" Parameters	47
3.72. "Display13" Parameters	47
3.73. "Display14" Parameters	47
3.74. "Display15" Parameters	48
3.75. "Display16" Parameters	48
3.76. "Display17" Parameters	48
3.77. "Display18" Parameters	48
3.78. "Display19" Parameters	49
3.79. "Display2" Parameters	49
3.80. "Display20" Parameters	49
3.81. "Display21" Parameters	49
3.82. "Display22" Parameters	49
3.83. "Display23" Parameters	50
3.84. "Display24" Parameters	50
3.85. "Display25" Parameters	50
3.86. "Display26" Parameters	50
3.87. "Display27" Parameters	51
3.88. "Display28" Parameters	51
3.89. "Display29" Parameters	51
3.90. "Display3" Parameters	51
3.91. "Display30" Parameters	52
3.92. "Display31" Parameters	52
3.93. "Display32" Parameters	52
3.94. "Display33" Parameters	52
3.95. "Display34" Parameters	52
3.96. "Display4" Parameters	53
3.97. "Display5" Parameters	53
3.98. "Display6" Parameters	53
3.99. "Display7" Parameters	53
3.100. "Display8" Parameters	54
3.101. "Display9" Parameters	54
3.102. "Enabled Gate1" Parameters	54
3.103. "Entity Sink" Parameters	54

3.104. "Entity Sink1" Parameters	55
3.105. "FIFO Queue1" Parameters	55
3.106. "FIFO Queue4" Parameters	55
3.107. "FIFO Queue6" Parameters	56
3.108. "From Router 1" Parameters	56
3.109. "Get Attribute" Parameters	56
3.110. "Get Attribute7" Parameters	57
3.111. "goto" Parameters	57
3.112. "Goto1" Parameters	57
3.113. "goto1" Parameters	57
3.114. "goto10" Parameters	58
3.115. "Goto2" Parameters	58
3.116. "goto2" Parameters	58
3.117. "Goto3" Parameters	58
3.118. "Goto4" Parameters	59
3.119. "Goto5" Parameters	59
3.120. "Goto6" Parameters	59
3.121. "goto8" Parameters	59
3.122. "goto9" Parameters	59
3.123. MATLAB Function Function Properties	60
3.124. MATLAB Function Argument Summary	60
3.125. "N-Server" Parameters	62
3.126. "Output Switch" Parameters	62
3.127. "Output Switch2" Parameters	63
3.128. "Packet Generator" Parameters	64
3.129. "Packet Generator for DNS Resolver" Parameters	65
3.130. "Path Combiner2" Parameters	65
3.131. "Path Combiner8" Parameters	66
3.132. "Path Combiner9" Parameters	66
3.133. "Pulse Generator1" Parameters	67
3.134. "Read Timer" Parameters	67
3.135. "Release Gate" Parameters	67
3.136. "Release Gate3" Parameters	68
3.137. "Server 0" Parameters	68
3.138. "Server 1" Parameters	69
3.139. "Server2" Parameters	70
3.140. "Set Attribute1" Parameters	70
3.141. "Set Attribute11" Parameters	71
3.142. "Set Attribute14" Parameters	71
3.143. "Set Attribute15" Parameters	71
3.144. "Set Attribute6" Parameters	72
3.145. "Start Timer" Parameters	72
3.146. "To Router 1" Parameters	72
3.147. "Destination dns" Parameters	73
3.148. "Destination dns1" Parameters	74
3.149. "Destination dns2" Parameters	75
3.150. "Display" Parameters	75
3.151. "Display1" Parameters	76
3.152. "Display2" Parameters	76
3.153. "Display3" Parameters	76
3.154. "Display4" Parameters	76
3.155. "Display5" Parameters	76
3.156. "Display6" Parameters	77
3.157. "Display7" Parameters	77

3.158. "Display8" Parameters	77
3.159. "Display9" Parameters	77
3.160. "Enabled Gate1" Parameters	78
3.161. "Entity Sink" Parameters	78
3.162. "FIFO Queue1" Parameters	78
3.163. "FIFO Queue4" Parameters	79
3.164. "FIFO Queue6" Parameters	79
3.165. "From Router 1" Parameters	79
3.166. "Get Attribute" Parameters	80
3.167. "Get Attribute7" Parameters	80
3.168. "goto" Parameters	80
3.169. "Goto1" Parameters	80
3.170. "goto10" Parameters	81
3.171. "Goto2" Parameters	81
3.172. "Goto3" Parameters	81
3.173. "Goto4" Parameters	81
3.174. "Goto5" Parameters	82
3.175. "goto8" Parameters	82
3.176. "goto9" Parameters	82
3.177. MATLAB Function Function Properties	82
3.178. MATLAB Function Argument Summary	83
3.179. "N-Server" Parameters	84
3.180. "Output Switch" Parameters	85
3.181. "Output Switch2" Parameters	86
3.182. "Packet Generator" Parameters	86
3.183. "Packet Generator for DNS Resolver" Parameters	87
3.184. "Path Combiner2" Parameters	88
3.185. "Path Combiner8" Parameters	88
3.186. "Path Combiner9" Parameters	89
3.187. "Pulse Generator1" Parameters	89
3.188. "Read Timer" Parameters	89
3.189. "Release Gate" Parameters	90
3.190. "Release Gate3" Parameters	90
3.191. "Server 0" Parameters	90
3.192. "Server 1" Parameters	91
3.193. "Server2" Parameters	92
3.194. "Set Attribute1" Parameters	93
3.195. "Set Attribute11" Parameters	93
3.196. "Set Attribute14" Parameters	94
3.197. "Set Attribute15" Parameters	94
3.198. "Set Attribute6" Parameters	94
3.199. "Start Timer" Parameters	95
3.200. "To Router 1" Parameters	95
3.201. "Destination dns" Parameters	96
3.202. "Destination dns1" Parameters	96
3.203. "Destination dns2" Parameters	97
3.204. "Display1" Parameters	98
3.205. "Display2" Parameters	98
3.206. "Enabled Gate1" Parameters	98
3.207. "Entity Sink" Parameters	99
3.208. "FIFO Queue4" Parameters	99
3.209. "FIFO Queue6" Parameters	99
3.210. "From Router 1" Parameters	100
3.211. "Get Attribute" Parameters	100

3.212. "Get Attribute7" Parameters	100
3.213. "goto" Parameters	101
3.214. "Goto1" Parameters	101
3.215. "goto10" Parameters	101
3.216. "Goto2" Parameters	101
3.217. "Goto3" Parameters	101
3.218. "Goto4" Parameters	102
3.219. "Goto5" Parameters	102
3.220. "goto8" Parameters	102
3.221. "goto9" Parameters	102
3.222. MATLAB Function Function Properties	102
3.223. MATLAB Function Argument Summary	103
3.224. "N-Server" Parameters	104
3.225. "Output Switch" Parameters	105
3.226. "Output Switch2" Parameters	106
3.227. "Packet Generator" Parameters	107
3.228. "Packet Generator for DNS Resolver" Parameters	107
3.229. "Path Combiner2" Parameters	108
3.230. "Path Combiner8" Parameters	109
3.231. "Path Combiner9" Parameters	109
3.232. "Pulse Generator1" Parameters	109
3.233. "Read Timer" Parameters	110
3.234. "Release Gate" Parameters	110
3.235. "Release Gate3" Parameters	111
3.236. "Server 0" Parameters	111
3.237. "Server 1" Parameters	112
3.238. "Server2" Parameters	113
3.239. "Set Attribute1" Parameters	113
3.240. "Set Attribute11" Parameters	114
3.241. "Set Attribute14" Parameters	114
3.242. "Set Attribute15" Parameters	114
3.243. "Set Attribute6" Parameters	115
3.244. "Start Timer" Parameters	115
3.245. "To Router 1" Parameters	115
3.246. "Destination dns" Parameters	116
3.247. "Destination dns1" Parameters	117
3.248. "Destination dns2" Parameters	118
3.249. "Display1" Parameters	118
3.250. "Display2" Parameters	119
3.251. "Enabled Gate1" Parameters	119
3.252. "Entity Sink" Parameters	119
3.253. "FIFO Queue4" Parameters	119
3.254. "FIFO Queue6" Parameters	120
3.255. "From Router 1" Parameters	120
3.256. "Get Attribute" Parameters	121
3.257. "Get Attribute7" Parameters	121
3.258. "goto" Parameters	121
3.259. "Goto1" Parameters	121
3.260. "goto10" Parameters	122
3.261. "Goto2" Parameters	122
3.262. "Goto3" Parameters	122
3.263. "Goto4" Parameters	122
3.264. "Goto5" Parameters	123
3.265. "goto8" Parameters	123

3.266. "goto9" Parameters	123
3.267. MATLAB Function Function Properties	123
3.268. MATLAB Function Argument Summary	124
3.269. "N-Server" Parameters	125
3.270. "Output Switch" Parameters	126
3.271. "Output Switch2" Parameters	127
3.272. "Packet Generator" Parameters	127
3.273. "Packet Generator for DNS Resolver" Parameters	128
3.274. "Path Combiner2" Parameters	129
3.275. "Path Combiner8" Parameters	129
3.276. "Path Combiner9" Parameters	130
3.277. "Pulse Generator1" Parameters	130
3.278. "Read Timer" Parameters	130
3.279. "Release Gate" Parameters	131
3.280. "Release Gate3" Parameters	131
3.281. "Server 0" Parameters	131
3.282. "Server 1" Parameters	132
3.283. "Server2" Parameters	133
3.284. "Set Attribute1" Parameters	134
3.285. "Set Attribute11" Parameters	134
3.286. "Set Attribute14" Parameters	135
3.287. "Set Attribute15" Parameters	135
3.288. "Set Attribute6" Parameters	135
3.289. "Start Timer" Parameters	136
3.290. "To Router 1" Parameters	136
3.291. "Destination dns" Parameters	137
3.292. "Destination dns1" Parameters	137
3.293. "Destination dns2" Parameters	138
3.294. "Display1" Parameters	139
3.295. "Display2" Parameters	139
3.296. "Enabled Gate1" Parameters	139
3.297. "Entity Sink" Parameters	140
3.298. "FIFO Queue4" Parameters	140
3.299. "FIFO Queue6" Parameters	140
3.300. "From Router 1" Parameters	141
3.301. "Get Attribute" Parameters	141
3.302. "Get Attribute7" Parameters	141
3.303. "goto" Parameters	141
3.304. "Goto1" Parameters	142
3.305. "goto10" Parameters	142
3.306. "Goto2" Parameters	142
3.307. "Goto3" Parameters	142
3.308. "Goto4" Parameters	142
3.309. "Goto5" Parameters	143
3.310. "goto8" Parameters	143
3.311. "goto9" Parameters	143
3.312. MATLAB Function Function Properties	143
3.313. MATLAB Function Argument Summary	144
3.314. "N-Server" Parameters	145
3.315. "Output Switch" Parameters	146
3.316. "Output Switch2" Parameters	147
3.317. "Packet Generator" Parameters	147
3.318. "Packet Generator for DNS Resolver" Parameters	148
3.319. "Path Combiner2" Parameters	149

3.320. "Path Combiner8" Parameters	149
3.321. "Path Combiner9" Parameters	150
3.322. "Pulse Generator1" Parameters	150
3.323. "Read Timer" Parameters	151
3.324. "Release Gate" Parameters	151
3.325. "Release Gate3" Parameters	151
3.326. "Server 0" Parameters	152
3.327. "Server 1" Parameters	152
3.328. "Server2" Parameters	153
3.329. "Set Attribute1" Parameters	154
3.330. "Set Attribute11" Parameters	154
3.331. "Set Attribute14" Parameters	155
3.332. "Set Attribute15" Parameters	155
3.333. "Set Attribute6" Parameters	155
3.334. "Start Timer" Parameters	156
3.335. "To Router 1" Parameters	156
3.336. "Delay DNS-Router" Parameters	157
3.337. "Destination dns1" Parameters	157
3.338. "Display1" Parameters	158
3.339. "Display2" Parameters	158
3.340. "Display28" Parameters	159
3.341. "Display3" Parameters	159
3.342. "Display4" Parameters	159
3.343. "Display5" Parameters	159
3.344. "Display6" Parameters	159
3.345. "Display7" Parameters	160
3.346. "Display8" Parameters	160
3.347. "Display9" Parameters	160
3.348. "Event-Based Random Number1" Parameters	160
3.349. "FIFO Queue1" Parameters	162
3.350. "From R1" Parameters	162
3.351. "Path Combiner9" Parameters	162
3.352. "Server1" Parameters	163
3.353. "Set Attribute1" Parameters	163
3.354. "Set Attribute2" Parameters	164
3.355. "Set Attribute3" Parameters	164
3.356. "To R1" Parameters	164
3.357. Average DNS-based Function Properties	165
3.358. Average DNS-based Argument Summary	166
3.359. Average DNS-based Supporting Functions	167
3.360. "DNS_based_Average_RTT_1" Parameters	167
3.361. "DNS_based_Average_RTT_10" Parameters	167
3.362. "DNS_based_Average_RTT_11" Parameters	167
3.363. "DNS_based_Average_RTT_12" Parameters	168
3.364. "DNS_based_Average_RTT_13" Parameters	168
3.365. "DNS_based_Average_RTT_14" Parameters	168
3.366. "DNS_based_Average_RTT_15" Parameters	168
3.367. "DNS_based_Average_RTT_16" Parameters	168
3.368. "DNS_based_Average_RTT_17" Parameters	169
3.369. "DNS_based_Average_RTT_18" Parameters	169
3.370. "DNS_based_Average_RTT_19" Parameters	169
3.371. "DNS_based_Average_RTT_2" Parameters	169
3.372. "DNS_based_Average_RTT_20" Parameters	169
3.373. "DNS_based_Average_RTT_21" Parameters	170

3.374. "DNS_based_Average_RTT_22" Parameters	170
3.375. "DNS_based_Average_RTT_23" Parameters	170
3.376. "DNS_based_Average_RTT_24" Parameters	170
3.377. "DNS_based_Average_RTT_25" Parameters	170
3.378. "DNS_based_Average_RTT_26" Parameters	171
3.379. "DNS_based_Average_RTT_27" Parameters	171
3.380. "DNS_based_Average_RTT_28" Parameters	171
3.381. "DNS_based_Average_RTT_29" Parameters	171
3.382. "DNS_based_Average_RTT_3" Parameters	171
3.383. "DNS_based_Average_RTT_30" Parameters	172
3.384. "DNS_based_Average_RTT_31" Parameters	172
3.385. "DNS_based_Average_RTT_32" Parameters	172
3.386. "DNS_based_Average_RTT_33" Parameters	172
3.387. "DNS_based_Average_RTT_34" Parameters	172
3.388. "DNS_based_Average_RTT_35" Parameters	173
3.389. "DNS_based_Average_RTT_36" Parameters	173
3.390. "DNS_based_Average_RTT_37" Parameters	173
3.391. "DNS_based_Average_RTT_38" Parameters	173
3.392. "DNS_based_Average_RTT_39" Parameters	173
3.393. "DNS_based_Average_RTT_4" Parameters	174
3.394. "DNS_based_Average_RTT_40" Parameters	174
3.395. "DNS_based_Average_RTT_41" Parameters	174
3.396. "DNS_based_Average_RTT_42" Parameters	174
3.397. "DNS_based_Average_RTT_43" Parameters	174
3.398. "DNS_based_Average_RTT_44" Parameters	175
3.399. "DNS_based_Average_RTT_45" Parameters	175
3.400. "DNS_based_Average_RTT_46" Parameters	175
3.401. "DNS_based_Average_RTT_47" Parameters	175
3.402. "DNS_based_Average_RTT_48" Parameters	175
3.403. "DNS_based_Average_RTT_49" Parameters	176
3.404. "DNS_based_Average_RTT_5" Parameters	176
3.405. "DNS_based_Average_RTT_50" Parameters	176
3.406. "DNS_based_Average_RTT_6" Parameters	176
3.407. "DNS_based_Average_RTT_7" Parameters	176
3.408. "DNS_based_Average_RTT_8" Parameters	177
3.409. "DNS_based_Average_RTT_9" Parameters	177
3.410. "DNS_based_RTT" Parameters	177
3.411. "Goto4" Parameters	177
3.412. "Mux" Parameters	177
3.413. "Mux2" Parameters	178
3.414. "Mux5" Parameters	178
3.415. "Mux6" Parameters	178
3.416. "Subtract" Parameters	178
3.417. "To File" Parameters	179
3.418. "Delay Router-Client" Parameters	180
3.419. "Delay Router-DNS" Parameters	180
3.420. "Delay Router-S1" Parameters	181
3.421. "Delay Router-S2" Parameters	182
3.422. "Display1" Parameters	183
3.423. "Display10" Parameters	183
3.424. "Display11" Parameters	183
3.425. "Display12" Parameters	183
3.426. "Display13" Parameters	184
3.427. "Display14" Parameters	184

3.428. "Display15" Parameters	184
3.429. "Display16" Parameters	184
3.430. "Display17" Parameters	185
3.431. "Display2" Parameters	185
3.432. "Display25" Parameters	185
3.433. "Display3" Parameters	185
3.434. "Display4" Parameters	185
3.435. "Display5" Parameters	186
3.436. "Display6" Parameters	186
3.437. "Display7" Parameters	186
3.438. "Display8" Parameters	186
3.439. "Display9" Parameters	187
3.440. "Entity Sink" Parameters	187
3.441. "FIFO Queue" Parameters	187
3.442. "Fr S1" Parameters	187
3.443. "Fr S2" Parameters	188
3.444. "From Client" Parameters	188
3.445. "From DNS" Parameters	188
3.446. "Get Attribute" Parameters	188
3.447. MATLAB Function Function Properties	189
3.448. MATLAB Function Argument Summary	189
3.449. "Output Switch" Parameters	190
3.450. "Path Combiner" Parameters	191
3.451. "Server" Parameters	191
3.452. "Server 0" Parameters	192
3.453. "To C1" Parameters	193
3.454. "To DNS" Parameters	193
3.455. "To S1" Parameters	193
3.456. "To S2" Parameters	194
3.457. "Delay S1-Router" Parameters	194
3.458. "Display1" Parameters	195
3.459. "Display2" Parameters	195
3.460. "Display28" Parameters	196
3.461. "Display3" Parameters	196
3.462. "Display6" Parameters	196
3.463. "Display7" Parameters	196
3.464. "FIFO Queue1" Parameters	197
3.465. "From R1" Parameters	197
3.466. "Goto1" Parameters	197
3.467. "Goto3" Parameters	198
3.468. "Server1" Parameters	198
3.469. "Set Attribute: reply" Parameters	199
3.470. "To R1" Parameters	199
3.471. "Delay_S2_Router" Parameters	200
3.472. "Display1" Parameters	200
3.473. "Display2" Parameters	201
3.474. "Display28" Parameters	201
3.475. "Display3" Parameters	201
3.476. "Display6" Parameters	201
3.477. "Display7" Parameters	202
3.478. "FIFO_Queue1" Parameters	202
3.479. "From_R3" Parameters	202
3.480. "Goto1" Parameters	202
3.481. "Goto3" Parameters	203

3.482. "Server1" Parameters	203
3.483. "SetAttribute_reply" Parameters	204
3.484. "To_R3" Parameters	204
3.485. "DNS_S1_Utility" Parameters	205
3.486. "DNS_S2_Utility" Parameters	205
3.487. "Mux5" Parameters	205
5.1. cdnlink_dns Configuration Set	207
5.2. cdnlink_dns Configuration Set.Components(1)	207
5.3. cdnlink_dns Configuration Set.Components(2)	208
5.4. cdnlink_dns Configuration Set.Components(3)	209
5.5. cdnlink_dns Configuration Set.Components(4)	210
5.6. cdnlink_dns Configuration Set.Components(5)	213
5.7. cdnlink_dns Configuration Set.Components(6)	214
5.8. cdnlink_dns Configuration Set.Components(7)	214
5.9. cdnlink_dns Configuration Set.Components(8)	215
5.10. cdnlink_dns Configuration Set.Components(9)	217
5.11. cdnlink_dns Configuration Set.Components(8).Components(1)	217
5.12. cdnlink_dns Configuration Set.Components(8).Components(2)	218

Chapter 1. Model Version

Version: 1.202

Last modified: Sun Mar 22 19:12:47 2015

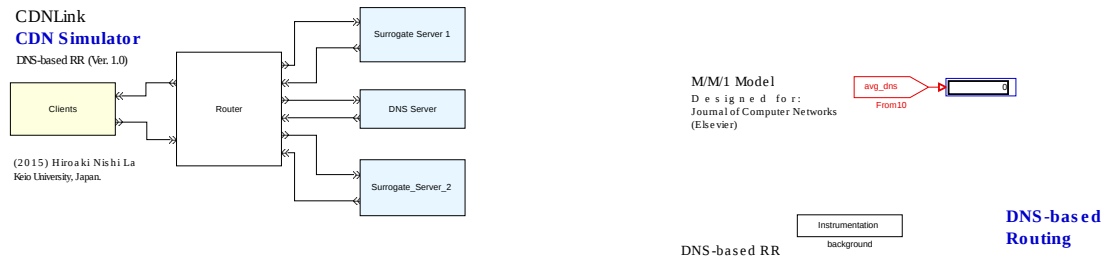
Checksum: 4044976658 3316546042 583585656 4087996066

Chapter 2. Root System

Table of Contents

2.1. Blocks	2
2.1.1. Parameters	2
2.1.2. Block Execution Order	3

Figure 2.1. cdnlink_dns



2.1. Blocks

2.1.1. Parameters

2.1.1.1. "AvgDelay SQ12" (Display)

Table 2.1. "AvgDelay SQ12" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

2.1.1.2. "From10" (From)

Table 2.2. "From10" Parameters

Parameter	Value
Goto tag	avg_dns
Icon display	Tag

2.1.2. Block Execution Order

1. Rate Factor [39] (Constant)
2. Slider Gain (Gain)
3. Uniform Random Number [32] (UniformRandomNumber)
4. Rate Factor [32] (Constant)
5. Slider Gain (Gain)
6. Uniform Random Number [38] (UniformRandomNumber)
7. Rate Factor [38] (Constant)
8. Slider Gain (Gain)
9. Uniform Random Number [35] (UniformRandomNumber)
10. Rate Factor [35] (Constant)
11. Slider Gain (Gain)
12. Pulse Generator1 [150] (DiscretePulseGenerator)
13. Uniform Random Number [26] (UniformRandomNumber)
14. Pulse Generator1 [130] (DiscretePulseGenerator)
15. Uniform Random Number [23] (UniformRandomNumber)
16. Pulse Generator1 [109] (DiscretePulseGenerator)
17. Uniform Random Number [20] (UniformRandomNumber)
18. Pulse Generator1 [89] (DiscretePulseGenerator)
19. Uniform Random Number [17] (UniformRandomNumber)
20. Uniform Random Number1 [29] (UniformRandomNumber)
21. Rate Factor [28] (Constant)
22. Slider Gain (Gain)
23. Pulse Generator1 [66] (DiscretePulseGenerator)
24. Uniform Random Number [14] (UniformRandomNumber)
25. SESubgraph0 (SESubgraph)
26. Read Timer [67] (ReadTimer)
27. Read Timer [89] (ReadTimer)
28. Read Timer [110] (ReadTimer)
29. Read Timer [130] (ReadTimer)
30. Read Timer [151] (ReadTimer)
31. *Average DNS-based*
32. AvgDelay SQ12 [2] (Display)
33. Path_Combiner [42] (PathCombiner)
34. client_attr [41] (OutputSwitch)
35. Packet Generator [64] (TimeBasedEntityGenerator)
36. Display15 [48] (Display)
37. Display18 [48] (Display)
38. Release Gate [67] (ReleaseGate)
39. Display5 [53] (Display)
40. Atp0ce8ece7_d772_476f_9cd1_74735e23819c1 [13] (TimedToEventSignal)
41. Atp0ce8ece7_d772_476f_9cd1_74735e23819c2 [13] (TimedToEventSignal)
42. *MATLAB Function*
43. Destination dns [44] (OutputSwitch)
44. Display27 [51] (Display)
45. Destination dns1 [45] (OutputSwitch)
46. Display23 [50] (Display)
47. Destination dns2 [45] (OutputSwitch)
48. Display17 [48] (Display)
49. Get Attribute7 [57] (GetAttribute)
50. Display1 [46] (Display)
51. Enabled Gate1 [54] (EnabledGate)

52. Display2 [49] (Display)
53. Set Attribute15 [71] (SetAttribute)
54. Display6 [53] (Display)
55. Set Attribute1 [70] (SetAttribute)
56. FIFO Queue6 [56] (FIFOQueue)
57. Display10 [46] (Display)
58. Display11 [47] (Display)
59. FIFO Queue4 [55] (FIFOQueue)
60. Display12 [47] (Display)
61. Display13 [47] (Display)
62. Path Combiner9 [66] (PathCombiner)
63. Display14 [47] (Display)
64. Entity Sink [54] (EntitySink)
65. Display19 [48] (Display)
66. FIFO Queue1 [55] (FIFOQueue)
67. Display20 [49] (Display)
68. Display21 [49] (Display)
69. Path Combiner2 [65] (PathCombiner)
70. Display22 [49] (Display)
71. Get Attribute [56] (GetAttribute)
72. Display24 [50] (Display)
73. Output Switch [62] (OutputSwitch)
74. Display25 [50] (Display)
75. Display29 [51] (Display)
76. Display30 [51] (Display)
77. Display31 [52] (Display)
78. Display32 [52] (Display)
79. *MATLAB Function*
80. Path Combiner8 [66] (PathCombiner)
81. Display26 [50] (Display)
82. N-Server [62] (NServer)
83. Display28 [51] (Display)
84. Display34 [52] (Display)
85. Output Switch2 [63] (OutputSwitch)
86. Display3 [51] (Display)
87. Entity Sink1 [54] (EntitySink)
88. Display33 [52] (Display)
89. Set Attribute11 [71] (SetAttribute)
90. Display7 [53] (Display)
91. Packet Generator for DNS Resolver [64] (TimeBasedEntityGenerator)
92. Release Gate3 [68] (ReleaseGate)
93. TimedToEventSignal2 [72] (TimedToEventSignal)
94. Server 0 [68] (SingleServer)
95. Server 1 [69] (SingleServer)
96. Server2 [69] (SingleServer)
97. Set Attribute14 [71] (SetAttribute)
98. Set Attribute6 [72] (SetAttribute)
99. Start Timer [72] (StartTimer)
100. Display16 [48] (Display)
101. Display4 [53] (Display)
102. Display8 [54] (Display)
103. Display9 [54] (Display)
104. From Router 1 [56] (PMIOPort)
105. To Router 1 [72] (PMIOPort)

106. Packet Generator [86] (TimeBasedEntityGenerator)
107. Display3 [76] (Display)
108. Atp0ce8ece7_d772_476f_9cd1_74735e23819c1 [16] (TimedToEventSignal)
109. Atp0ce8ece7_d772_476f_9cd1_74735e23819c2 [16] (TimedToEventSignal)
110. *MATLAB Function*
111. Release Gate [90] (ReleaseGate)
112. Destination dns [73] (OutputSwitch)
113. Destination dns1 [74] (OutputSwitch)
114. Destination dns2 [75] (OutputSwitch)
115. Entity Sink [78] (EntitySink)
116. Display [75] (Display)
117. Get Attribute7 [80] (GetAttribute)
118. Display1 [75] (Display)
119. Set Attribute1 [93] (SetAttribute)
120. Set Attribute15 [94] (SetAttribute)
121. Enabled Gate1 [78] (EnabledGate)
122. FIFO Queue6 [79] (FIFOQueue)
123. Display4 [76] (Display)
124. FIFO Queue4 [78] (FIFOQueue)
125. Display5 [76] (Display)
126. Display6 [77] (Display)
127. N-Server [84] (NServer)
128. Display7 [77] (Display)
129. FIFO Queue1 [78] (FIFOQueue)
130. Display8 [77] (Display)
131. Display9 [77] (Display)
132. Get Attribute [80] (GetAttribute)
133. *MATLAB Function*
134. Output Switch [85] (OutputSwitch)
135. Output Switch2 [86] (OutputSwitch)
136. Packet Generator for DNS Resolver [87] (TimeBasedEntityGenerator)
137. Path Combiner2 [88] (PathCombiner)
138. Path Combiner8 [88] (PathCombiner)
139. Path Combiner9 [89] (PathCombiner)
140. Release Gate3 [90] (ReleaseGate)
141. TimedToEventSignal2 [95] (TimedToEventSignal)
142. Set Attribute11 [93] (SetAttribute)
143. Server 0 [90] (SingleServer)
144. Server 1 [91] (SingleServer)
145. Server2 [92] (SingleServer)
146. Set Attribute14 [94] (SetAttribute)
147. Set Attribute6 [94] (SetAttribute)
148. Start Timer [95] (StartTimer)
149. Display2 [76] (Display)
150. From Router 1 [79] (PMIOPort)
151. To Router 1 [95] (PMIOPort)
152. Atp0ce8ece7_d772_476f_9cd1_74735e23819c1 [19] (TimedToEventSignal)
153. Atp0ce8ece7_d772_476f_9cd1_74735e23819c2 [19] (TimedToEventSignal)
154. *MATLAB Function*
155. Packet Generator [107] (TimeBasedEntityGenerator)
156. Release Gate [110] (ReleaseGate)
157. Destination dns [96] (OutputSwitch)
158. Destination dns1 [96] (OutputSwitch)
159. Destination dns2 [97] (OutputSwitch)

160. Get Attribute7 [100] (GetAttribute)
161. Display1 [98] (Display)
162. Set Attribute1 [113] (SetAttribute)
163. Set Attribute15 [114] (SetAttribute)
164. Enabled Gate1 [98] (EnabledGate)
165. Entity Sink [98] (EntitySink)
166. FIFO Queue4 [99] (FIFOQueue)
167. FIFO Queue6 [99] (FIFOQueue)
168. Get Attribute [100] (GetAttribute)
169. *MATLAB Function*
170. Output Switch [105] (OutputSwitch)
171. Output Switch2 [106] (OutputSwitch)
172. Packet Generator for DNS Resolver [107] (TimeBasedEntityGenerator)
173. Path Combiner2 [108] (PathCombiner)
174. Path Combiner8 [109] (PathCombiner)
175. Path Combiner9 [109] (PathCombiner)
176. Release Gate3 [110] (ReleaseGate)
177. TimedToEventSignal2 [115] (TimedToEventSignal)
178. Set Attribute11 [114] (SetAttribute)
179. N-Server [104] (NServer)
180. Server 0 [111] (SingleServer)
181. Server 1 [112] (SingleServer)
182. Server2 [112] (SingleServer)
183. Set Attribute14 [114] (SetAttribute)
184. Set Attribute6 [115] (SetAttribute)
185. Start Timer [115] (StartTimer)
186. Display2 [98] (Display)
187. From Router 1 [100] (PMIOPort)
188. To Router 1 [115] (PMIOPort)
189. Atp0ce8ece7_d772_476f_9cd1_74735e23819c1 [22] (TimedToEventSignal)
190. Atp0ce8ece7_d772_476f_9cd1_74735e23819c2 [22] (TimedToEventSignal)
191. *MATLAB Function*
192. Packet Generator [127] (TimeBasedEntityGenerator)
193. Release Gate [131] (ReleaseGate)
194. Destination dns [116] (OutputSwitch)
195. Destination dns1 [117] (OutputSwitch)
196. Destination dns2 [118] (OutputSwitch)
197. Get Attribute7 [121] (GetAttribute)
198. Display1 [118] (Display)
199. Set Attribute1 [134] (SetAttribute)
200. Set Attribute15 [135] (SetAttribute)
201. Enabled Gate1 [119] (EnabledGate)
202. Entity Sink [119] (EntitySink)
203. FIFO Queue4 [119] (FIFOQueue)
204. FIFO Queue6 [120] (FIFOQueue)
205. Get Attribute [120] (GetAttribute)
206. *MATLAB Function*
207. Output Switch [126] (OutputSwitch)
208. Output Switch2 [127] (OutputSwitch)
209. Packet Generator for DNS Resolver [128] (TimeBasedEntityGenerator)
210. Path Combiner2 [129] (PathCombiner)
211. Path Combiner8 [129] (PathCombiner)
212. Path Combiner9 [130] (PathCombiner)
213. Release Gate3 [131] (ReleaseGate)

- 214. TimedToEventSignal2 [136] (TimedToEventSignal)
- 215. Set Attribute11 [134] (SetAttribute)
- 216. N-Server [125] (NServer)
- 217. Server 0 [131] (SingleServer)
- 218. Server 1 [132] (SingleServer)
- 219. Server2 [133] (SingleServer)
- 220. Set Attribute14 [135] (SetAttribute)
- 221. Set Attribute6 [135] (SetAttribute)
- 222. Start Timer [136] (StartTimer)
- 223. Display2 [119] (Display)
- 224. From Router 1 [120] (PMIOPort)
- 225. To Router 1 [136] (PMIOPort)
- 226. Atp0ce8ece7_d772_476f_9cd1_74735e23819c1 [25] (TimedToEventSignal)
- 227. Atp0ce8ece7_d772_476f_9cd1_74735e23819c2 [25] (TimedToEventSignal)
- 228. *MATLAB Function*
- 229. Packet Generator [147] (TimeBasedEntityGenerator)
- 230. Release Gate [151] (ReleaseGate)
- 231. Destination dns [137] (OutputSwitch)
- 232. Destination dns1 [137] (OutputSwitch)
- 233. Destination dns2 [138] (OutputSwitch)
- 234. Get Attribute7 [141] (GetAttribute)
- 235. Display1 [139] (Display)
- 236. Set Attribute1 [154] (SetAttribute)
- 237. Set Attribute15 [155] (SetAttribute)
- 238. Enabled Gate1 [139] (EnabledGate)
- 239. Entity Sink [139] (EntitySink)
- 240. FIFO Queue4 [140] (FIFOQueue)
- 241. FIFO Queue6 [140] (FIFOQueue)
- 242. Get Attribute [141] (GetAttribute)
- 243. *MATLAB Function*
- 244. Output Switch [146] (OutputSwitch)
- 245. Output Switch2 [147] (OutputSwitch)
- 246. Packet Generator for DNS Resolver [148] (TimeBasedEntityGenerator)
- 247. Path Combiner2 [149] (PathCombiner)
- 248. Path Combiner8 [149] (PathCombiner)
- 249. Path Combiner9 [150] (PathCombiner)
- 250. Release Gate3 [151] (ReleaseGate)
- 251. TimedToEventSignal2 [156] (TimedToEventSignal)
- 252. Set Attribute11 [154] (SetAttribute)
- 253. N-Server [145] (NServer)
- 254. Server 0 [152] (SingleServer)
- 255. Server 1 [152] (SingleServer)
- 256. Server2 [153] (SingleServer)
- 257. Set Attribute14 [155] (SetAttribute)
- 258. Set Attribute6 [155] (SetAttribute)
- 259. Start Timer [156] (StartTimer)
- 260. Display2 [139] (Display)
- 261. From Router 1 [141] (PMIOPort)
- 262. To Router 1 [156] (PMIOPort)
- 263. From_Router_1 [42] (PMIOPort)
- 264. To_Router_1 [43] (PMIOPort)
- 265. Server1 [163] (SingleServer)
- 266. Atp0ce8ece7_d772_476f_9cd1_74735e23819c1 [31] (TimedToEventSignal)
- 267. Atp0ce8ece7_d772_476f_9cd1_74735e23819c2 [31] (TimedToEventSignal)

- 268. *MATLAB Function*
- 269. Delay DNS-Router [157] (NServer)
- 270. Display28 [158] (Display)
- 271. Display4 [159] (Display)
- 272. Destination dns1 [157] (OutputSwitch)
- 273. Display3 [159] (Display)
- 274. Set Attribute2 [164] (SetAttribute)
- 275. Display1 [158] (Display)
- 276. Set Attribute1 [163] (SetAttribute)
- 277. Display2 [158] (Display)
- 278. Path Combiner9 [162] (PathCombiner)
- 279. Display5 [159] (Display)
- 280. FIFO Queue1 [161] (FIFOQueue)
- 281. Display6 [159] (Display)
- 282. Display7 [160] (Display)
- 283. Set Attribute3 [164] (SetAttribute)
- 284. Event-Based Random Number1 [160] (EventBasedRandomNumber)
- 285. Display8 [160] (Display)
- 286. Display9 [160] (Display)
- 287. From R1 [162] (PMIOPort)
- 288. To R1 [164] (PMIOPort)
- 289. Server [191] (SingleServer)
- 290. Display16 [184] (Display)
- 291. Display17 [184] (Display)
- 292. Display6 [186] (Display)
- 293. Atp0ce8ece7_d772_476f_9cd1_74735e23819c1 [27] (TimedToEventSignal)
- 294. Atp0ce8ece7_d772_476f_9cd1_74735e23819c2 [27] (TimedToEventSignal)
- 295. *MATLAB Function*
- 296. Delay Router-Client [179] (NServer)
- 297. Display10 [183] (Display)
- 298. Display12 [183] (Display)
- 299. Delay Router-DNS [180] (NServer)
- 300. Display15 [184] (Display)
- 301. Display4 [185] (Display)
- 302. Delay Router-S1 [181] (NServer)
- 303. Display14 [184] (Display)
- 304. Display5 [186] (Display)
- 305. Delay Router-S2 [182] (NServer)
- 306. Display11 [183] (Display)
- 307. Display13 [184] (Display)
- 308. FIFO Queue [187] (FIFOQueue)
- 309. Display1 [183] (Display)
- 310. Display2 [185] (Display)
- 311. Output Switch [190] (OutputSwitch)
- 312. Display25 [185] (Display)
- 313. Get Attribute [188] (GetAttribute)
- 314. Display7 [186] (Display)
- 315. *MATLAB Function*
- 316. Entity Sink [187] (EntitySink)
- 317. Display3 [185] (Display)
- 318. Path Combiner [191] (PathCombiner)
- 319. Display9 [186] (Display)
- 320. Server 0 [192] (SingleServer)
- 321. Display8 [186] (Display)

- 322. To S1 [193] (PMIOPort)
- 323. Fr S1 [187] (PMIOPort)
- 324. To C1 [193] (PMIOPort)
- 325. To DNS [193] (PMIOPort)
- 326. From DNS [188] (PMIOPort)
- 327. To S2 [194] (PMIOPort)
- 328. Fr S2 [188] (PMIOPort)
- 329. From Client [188] (PMIOPort)
- 330. Server1 [198] (SingleServer)
- 331. Display2 [195] (Display)
- 332. Display3 [196] (Display)
- 333. Atp0ce8ece7_d772_476f_9cd1_74735e23819c1 [34] (TimedToEventSignal)
- 334. Atp0ce8ece7_d772_476f_9cd1_74735e23819c2 [34] (TimedToEventSignal)
- 335. *MATLAB Function*
- 336. Delay S1-Router [194] (NServer)
- 337. Display1 [195] (Display)
- 338. Display28 [196] (Display)
- 339. FIFO Queue1 [197] (FIFOQueue)
- 340. Display6 [196] (Display)
- 341. Display7 [196] (Display)
- 342. Set Attribute: reply [199] (SetAttribute)
- 343. From R1 [197] (PMIOPort)
- 344. To R1 [199] (PMIOPort)
- 345. Server1 [203] (SingleServer)
- 346. Display2 [201] (Display)
- 347. Display3 [201] (Display)
- 348. Atp0ce8ece7_d772_476f_9cd1_74735e23819c1 [37] (TimedToEventSignal)
- 349. Atp0ce8ece7_d772_476f_9cd1_74735e23819c2 [37] (TimedToEventSignal)
- 350. *MATLAB Function*
- 351. Delay_S2_Router [200] (NServer)
- 352. Display1 [200] (Display)
- 353. Display28 [201] (Display)
- 354. FIFO_Queue1 [202] (FIFOQueue)
- 355. Display6 [201] (Display)
- 356. Display7 [201] (Display)
- 357. SetAttribute_reply [204] (SetAttribute)
- 358. From_R3 [202] (PMIOPort)
- 359. To_R3 [204] (PMIOPort)
- 360. QL Surrogate with DNS [39] (Scope)
- 361. TmpSignal ConversionAtEvent to Timed SignalInport1 (SignalConversion)
- 362. Event to Timed Signal [39] (EventToTimedSignal)
- 363. To File [40] (ToFile)
- 364. DNS_Av_Rtt [167] (Scope)
- 365. DNS_Total_Av_Rtt [177] (Scope)
- 366. Scope [178] (Scope)
- 367. Scope1 [178] (Scope)
- 368. Scope2 [178] (Scope)
- 369. Total_Av_Rtt [179] (Scope)
- 370. Event to Timed Signal [177] (EventToTimedSignal)
- 371. Subtract [178] (Sum)
- 372. RTT1 [178] (Scope)
- 373. RTT2 [178] (Scope)
- 374. To File [179] (ToFile)
- 375. DNS-based Server with 75% Utility [205] (Scope)

376. SESubgraph1 (SESubgraph)

Chapter 3. Subsystems

Table of Contents

3.1. 1	12
3.1.1. Blocks	12
3.2. 1	15
3.2.1. Blocks	15
3.3. 1	18
3.3.1. Blocks	18
3.4. 1	21
3.4.1. Blocks	21
3.5. 1	24
3.5.1. Blocks	24
3.6. 1	27
3.6.1. Blocks	27
3.7. 2	30
3.7.1. Blocks	30
3.8. 2	33
3.8.1. Blocks	33
3.9. 2	36
3.9.1. Blocks	36
3.10. background	39
3.10.1. Blocks	39
3.11. Client	41
3.11.1. Blocks	41
3.12. Client_1	44
3.12.1. Blocks	44
3.13. Client_2	73
3.13.1. Blocks	73
3.14. Client_3	95
3.14.1. Blocks	96
3.15. Client_4	116
3.15.1. Blocks	116
3.16. Client_5	136
3.16.1. Blocks	137
3.17. DNS_Server_1	156
3.17.1. Blocks	157
3.18. Response_Time	165
3.18.1. Blocks	165
3.19. Router	179
3.19.1. Blocks	179
3.20. Server_1	194
3.20.1. Blocks	194
3.21. Server_2	199
3.21.1. Blocks	200
3.22. Utilities	204
3.22.1. Blocks	205

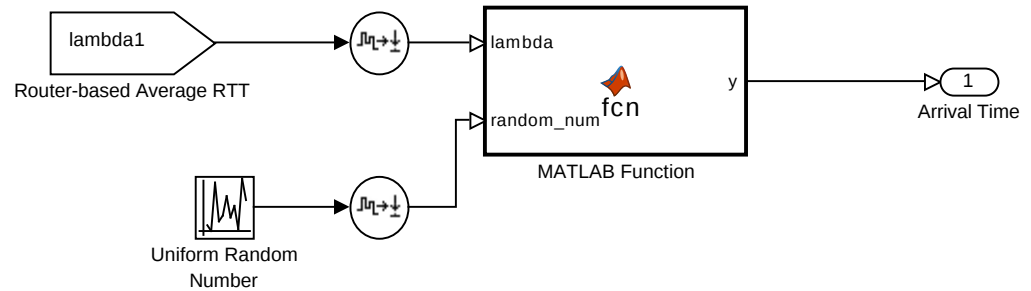
3.1. 1

Figure 3.1. cdnlink_dns/Client/Client_1/ 1

CDNLink

Exponential Distribution

Arrival Packet-Rate G



3.1.1. Blocks

3.1.1.1. Parameters

3.1.1.1.1. "Arrival Time" (Output)

Table 3.1. "Arrival Time" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Minimum	[]
Maximum	[]
Data type	Inherit: auto
Lock output data type setting against changes by the fixed-point tools	off
Output as nonvirtual bus in parent model	off

Parameter	Value
Port dimensions (-1 for inherited)	-1
Variable-size signal	Inherit
Sample time (-1 for inherited)	-1
Source of initial output value	Dialog
Output when disabled	held
Initial output	[]

3.1.1.1.2. "MATLAB Function" (MATLAB Function)

Table 3.2. MATLAB Function Function Properties

Property	Value
Update Method	INHERITED
Sample Time	
Support variable-size arrays	1
Saturate on integer overflow	1
Treat these inherited Simulink signal types as fi objects	Fixed-point
Input fi math	fimath(...)
Description	

Table 3.3. MATLAB Function Argument Summary

Name	Scope	Port	Data Type	Size
lambda	Input	1	double	1
y	Output	1	double	1
random_num	Input	2	double	1

MATLAB Function Function Script

```
function y = fcn(lambda, random_num)
%#codegen

y = (-1/lambda)*log(random_num);
```

Table 3.4. MATLAB Function Supporting Functions

Function	Defined By	Path
coder.internal.assert	MATLAB	

Function	Defined By	Path
coder.internal.div	MATLAB	
coder.internal.isBuiltInNumeric	MATLAB	
log	MATLAB	
mrdivide	MATLAB	
rdivide	MATLAB	
realmax	MATLAB	

3.1.1.1.3. "Router-based Average RTT" (From)

Table 3.5. "Router-based Average RTT" Parameters

Parameter	Value
Goto tag	lambda1
Icon display	Tag

3.1.1.1.4. "Uniform Random Number" (UniformRandomNumber)

Table 3.6. "Uniform Random Number" Parameters

Parameter	Value
Minimum	0
Maximum	1
Seed	21362
Sample time	0
Interpret vector parameters as 1-D	on

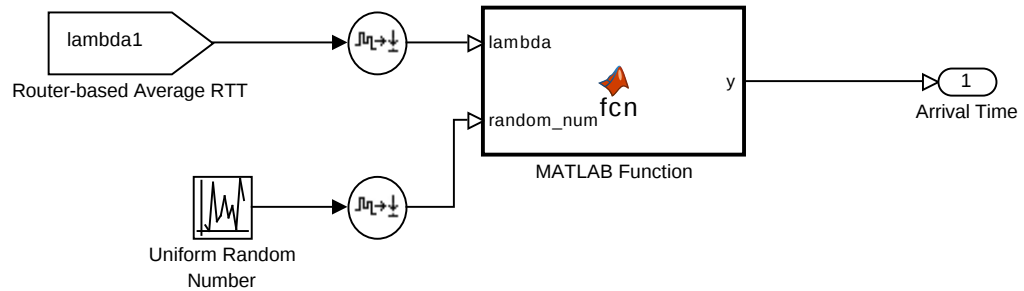
3.2. 1

Figure 3.2. cdnlink_dns/Client/Client_2/ 1

CDNLink

Exponential Distribution

Arrival Packet-Rate G



3.2.1. Blocks

3.2.1.1. Parameters

3.2.1.1.1. "Arrival Time" (Output)

Table 3.7. "Arrival Time" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Minimum	[]
Maximum	[]
Data type	Inherit: auto
Lock output data type setting against changes by the fixed-point tools	off
Output as nonvirtual bus in parent model	off

Parameter	Value
Port dimensions (-1 for inherited)	-1
Variable-size signal	Inherit
Sample time (-1 for inherited)	-1
Source of initial output value	Dialog
Output when disabled	held
Initial output	[]

3.2.1.1.2. "MATLAB Function" (MATLAB Function)

Table 3.8. MATLAB Function Function Properties

Property	Value
Update Method	INHERITED
Sample Time	
Support variable-size arrays	1
Saturate on integer overflow	1
Treat these inherited Simulink signal types as fi objects	Fixed-point
Input fi math	fimath(...)
Description	

Table 3.9. MATLAB Function Argument Summary

Name	Scope	Port	Data Type	Size
lambda	Input	1	double	1
y	Output	1	double	1
random_num	Input	2	double	1

MATLAB Function Function Script

```
function y = fcn(lambda, random_num)
%#codegen

y = (-1/lambda)*log(random_num);
```

Table 3.10. MATLAB Function Supporting Functions

Function	Defined By	Path
coder.internal.assert	MATLAB	

Function	Defined By	Path
coder.internal.div	MATLAB	
coder.internal.isBuiltInNumeric	MATLAB	
log	MATLAB	
mrdivide	MATLAB	
rdivide	MATLAB	
realmax	MATLAB	

3.2.1.1.3. "Router-based Average RTT" (From)

Table 3.11. "Router-based Average RTT" Parameters

Parameter	Value
Goto tag	lambda1
Icon display	Tag

3.2.1.1.4. "Uniform Random Number" (UniformRandomNumber)

Table 3.12. "Uniform Random Number" Parameters

Parameter	Value
Minimum	0
Maximum	1
Seed	21362
Sample time	0
Interpret vector parameters as 1-D	on

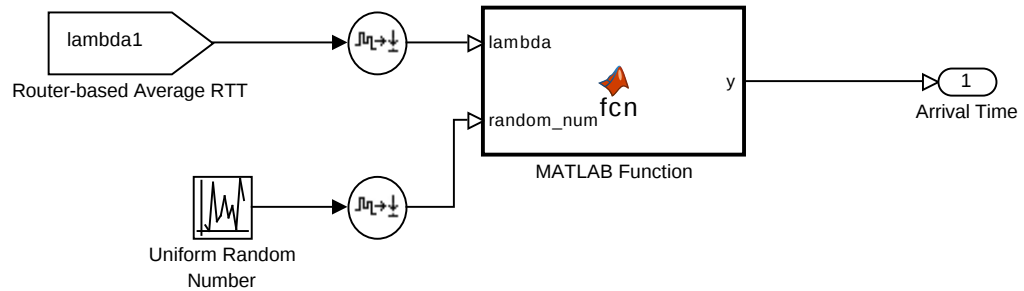
3.3. 1

Figure 3.3. cdnlink_dns/Client/Client_3/ 1

CDNLink

Exponential Distribution

Arrival Packet-Rate G



3.3.1. Blocks

3.3.1.1. Parameters

3.3.1.1.1. "Arrival Time" (Output)

Table 3.13. "Arrival Time" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Minimum	[]
Maximum	[]
Data type	Inherit: auto
Lock output data type setting against changes by the fixed-point tools	off
Output as nonvirtual bus in parent model	off

Parameter	Value
Port dimensions (-1 for inherited)	-1
Variable-size signal	Inherit
Sample time (-1 for inherited)	-1
Source of initial output value	Dialog
Output when disabled	held
Initial output	[]

3.3.1.1.2. "MATLAB Function" (MATLAB Function)

Table 3.14. MATLAB Function Function Properties

Property	Value
Update Method	INHERITED
Sample Time	
Support variable-size arrays	1
Saturate on integer overflow	1
Treat these inherited Simulink signal types as fi objects	Fixed-point
Input fi math	fimath(...)
Description	

Table 3.15. MATLAB Function Argument Summary

Name	Scope	Port	Data Type	Size
lambda	Input	1	double	1
y	Output	1	double	1
random_num	Input	2	double	1

MATLAB Function Function Script

```
function y = fcn(lambda, random_num)
%#codegen

y = (-1/lambda)*log(random_num);
```

Table 3.16. MATLAB Function Supporting Functions

Function	Defined By	Path
coder.internal.assert	MATLAB	

Function	Defined By	Path
coder.internal.div	MATLAB	
coder.internal.isBuiltInNumeric	MATLAB	
log	MATLAB	
mrdivide	MATLAB	
rdivide	MATLAB	
realmax	MATLAB	

3.3.1.1.3. "Router-based Average RTT" (From)

Table 3.17. "Router-based Average RTT" Parameters

Parameter	Value
Goto tag	lambda1
Icon display	Tag

3.3.1.1.4. "Uniform Random Number" (UniformRandomNumber)

Table 3.18. "Uniform Random Number" Parameters

Parameter	Value
Minimum	0
Maximum	1
Seed	21362
Sample time	0
Interpret vector parameters as 1-D	on

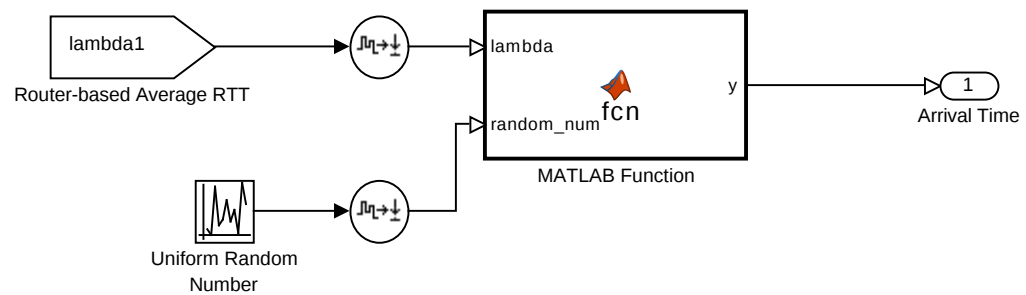
3.4. 1

Figure 3.4. cdnlink_dns/Client/Client_4/ 1

CDNLink

Exponential Distribution

Arrival Packet-Rate G



3.4.1. Blocks

3.4.1.1. Parameters

3.4.1.1.1. "Arrival Time" (Output)

Table 3.19. "Arrival Time" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Minimum	[]
Maximum	[]
Data type	Inherit: auto
Lock output data type setting against changes by the fixed-point tools	off
Output as nonvirtual bus in parent model	off

Parameter	Value
Port dimensions (-1 for inherited)	-1
Variable-size signal	Inherit
Sample time (-1 for inherited)	-1
Source of initial output value	Dialog
Output when disabled	held
Initial output	[]

3.4.1.1.2. "MATLAB Function" (MATLAB Function)

Table 3.20. MATLAB Function Function Properties

Property	Value
Update Method	INHERITED
Sample Time	
Support variable-size arrays	1
Saturate on integer overflow	1
Treat these inherited Simulink signal types as fi objects	Fixed-point
Input fi math	fimath(...)
Description	

Table 3.21. MATLAB Function Argument Summary

Name	Scope	Port	Data Type	Size
lambda	Input	1	double	1
y	Output	1	double	1
random_num	Input	2	double	1

MATLAB Function Function Script

```
function y = fcn(lambda, random_num)
%#codegen

y = (-1/lambda)*log(random_num);
```

Table 3.22. MATLAB Function Supporting Functions

Function	Defined By	Path
coder.internal.assert	MATLAB	

Function	Defined By	Path
coder.internal.div	MATLAB	
coder.internal.isBuiltInNumeric	MATLAB	
log	MATLAB	
mrdivide	MATLAB	
rdivide	MATLAB	
realmax	MATLAB	

3.4.1.1.3. "Router-based Average RTT" (From)

Table 3.23. "Router-based Average RTT" Parameters

Parameter	Value
Goto tag	lambda1
Icon display	Tag

3.4.1.1.4. "Uniform Random Number" (UniformRandomNumber)

Table 3.24. "Uniform Random Number" Parameters

Parameter	Value
Minimum	0
Maximum	1
Seed	21362
Sample time	0
Interpret vector parameters as 1-D	on

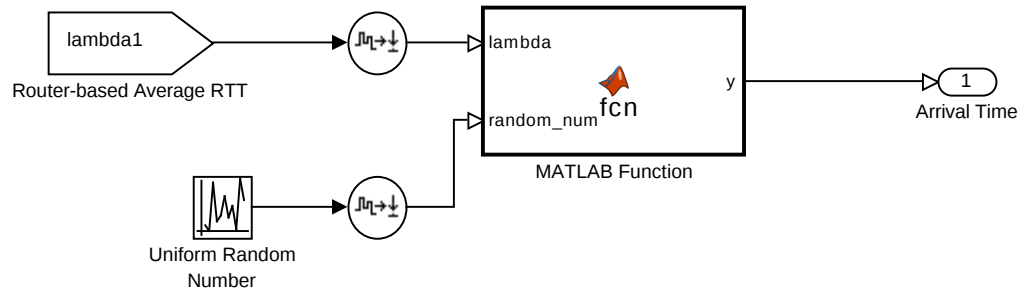
3.5. 1

Figure 3.5. cdnlink_dns/Client/Client_5/ 1

CDNLink

Exponential Distribution

Arrival Packet-Rate G



3.5.1. Blocks

3.5.1.1. Parameters

3.5.1.1.1. "Arrival Time" (Output)

Table 3.25. "Arrival Time" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Minimum	[]
Maximum	[]
Data type	Inherit: auto
Lock output data type setting against changes by the fixed-point tools	off
Output as nonvirtual bus in parent model	off

Parameter	Value
Port dimensions (-1 for inherited)	-1
Variable-size signal	Inherit
Sample time (-1 for inherited)	-1
Source of initial output value	Dialog
Output when disabled	held
Initial output	[]

3.5.1.1.2. "MATLAB Function" (MATLAB Function)

Table 3.26. MATLAB Function Function Properties

Property	Value
Update Method	INHERITED
Sample Time	
Support variable-size arrays	1
Saturate on integer overflow	1
Treat these inherited Simulink signal types as fi objects	Fixed-point
Input fi math	fimath(...)
Description	

Table 3.27. MATLAB Function Argument Summary

Name	Scope	Port	Data Type	Size
lambda	Input	1	double	1
y	Output	1	double	1
random_num	Input	2	double	1

MATLAB Function Function Script

```
function y = fcn(lambda, random_num)
%#codegen

y = (-1/lambda)*log(random_num);
```

Table 3.28. MATLAB Function Supporting Functions

Function	Defined By	Path
coder.internal.assert	MATLAB	

Function	Defined By	Path
coder.internal.div	MATLAB	
coder.internal.isBuiltInNumeric	MATLAB	
log	MATLAB	
mrdivide	MATLAB	
rdivide	MATLAB	
realmax	MATLAB	

3.5.1.1.3. "Router-based Average RTT" (From)

Table 3.29. "Router-based Average RTT" Parameters

Parameter	Value
Goto tag	lambda1
Icon display	Tag

3.5.1.1.4. "Uniform Random Number" (UniformRandomNumber)

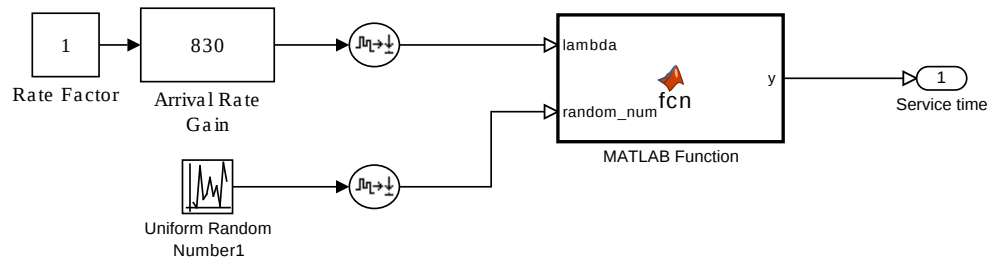
Table 3.30. "Uniform Random Number" Parameters

Parameter	Value
Minimum	0
Maximum	1
Seed	21362
Sample time	0
Interpret vector parameters as 1-D	on

3.6. 1

Figure 3.6. cdnlink_dns/Router/ 1

QueLink-NS
Exponential Distribution
Service Rate μ



3.6.1. Blocks

3.6.1.1. Parameters

3.6.1.1.1. "MATLAB Function" (MATLAB Function)

Table 3.31. MATLAB Function Function Properties

Property	Value
Update Method	INHERITED
Sample Time	
Support variable-size arrays	1
Saturate on integer overflow	1
Treat these inherited Simulink signal types as fi objects	Fixed-point
Input fi math	fimath(...)
Description	

Table 3.32. MATLAB Function Argument Summary

Name	Scope	Port	Data Type	Size
lambda	Input	1	double	1
y	Output	1	double	1

Name	Scope	Port	Data Type	Size
random_num	Input	2	double	1

MATLAB Function Function Script

```
function y = fcn(lambda, random_num)
%#codegen

y = (-1/lambda)*log(random_num);
```

Table 3.33. MATLAB Function Supporting Functions

Function	Defined By	Path
coder.internal.assert	MATLAB	
coder.internal.div	MATLAB	
coder.internal.isBuiltInNumeric	MATLAB	
log	MATLAB	
mrdivide	MATLAB	
rdivide	MATLAB	
realmax	MATLAB	

3.6.1.1.2. "Rate Factor" (Constant)**Table 3.34. "Rate Factor" Parameters**

Parameter	Value
Constant value	1
Interpret vector parameters as 1-D	on
Sampling mode	Sample based
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Inherit from 'Constant value'
Lock output data type setting against changes by the fixed-point tools	off
Sample time	inf
Frame period	inf

3.6.1.1.3. "Service time" (Outport)**Table 3.35. "Service time" Parameters**

Parameter	Value
Port number	1

Parameter	Value
Icon display	Port number
Minimum	[]
Maximum	[]
Data type	Inherit: auto
Lock output data type setting against changes by the fixed-point tools	off
Output as nonvirtual bus in parent model	off
Port dimensions (-1 for inherited)	-1
Variable-size signal	Inherit
Sample time (-1 for inherited)	-1
Source of initial output value	Dialog
Output when disabled	held
Initial output	[]

3.6.1.1.4. "Uniform Random Number1" (UniformRandomNumber)

Table 3.36. "Uniform Random Number1" Parameters

Parameter	Value
Minimum	0
Maximum	1
Seed	96286
Sample time	0
Interpret vector parameters as 1-D	on

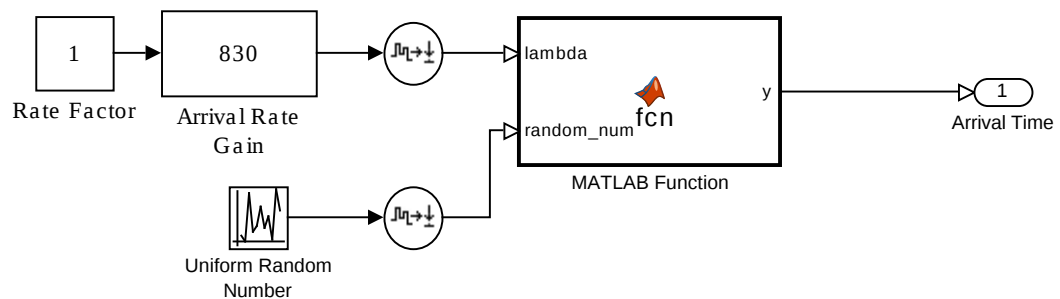
3.7. 2

Figure 3.7. cdnlink_dns/DNS_Server_1/ 2

CDNLink

Exponential Distribution

Arrival Packet-Rate Gain



3.7.1. Blocks

3.7.1.1. Parameters

3.7.1.1.1. "Arrival Time" (Outport)

Table 3.37. "Arrival Time" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Minimum	[]
Maximum	[]
Data type	Inherit: auto
Lock output data type setting against changes by the fixed-point tools	off
Output as nonvirtual bus in parent model	off
Port dimensions (-1 for inherited)	-1
Variable-size signal	Inherit

Parameter	Value
Sample time (-1 for inherited)	-1
Source of initial output value	Dialog
Output when disabled	held
Initial output	[]

3.7.1.1.2. "MATLAB Function" (MATLAB Function)

Table 3.38. MATLAB Function Function Properties

Property	Value
Update Method	INHERITED
Sample Time	
Support variable-size arrays	1
Saturate on integer overflow	1
Treat these inherited Simulink signal types as fi objects	Fixed-point
Input fi math	fimath(...)
Description	

Table 3.39. MATLAB Function Argument Summary

Name	Scope	Port	Data Type	Size
lambda	Input	1	double	1
y	Output	1	double	1
random_num	Input	2	double	1

MATLAB Function Function Script

```
function y = fcn(lambda, random_num)
%#codegen

y = (-1/lambda)*log(random_num);
```

Table 3.40. MATLAB Function Supporting Functions

Function	Defined By	Path
coder.internal.assert	MATLAB	

Function	Defined By	Path
coder.internal.div	MATLAB	
coder.internal.isBuiltInNumeric	MATLAB	
log	MATLAB	
mrdivide	MATLAB	
rdivide	MATLAB	
realmax	MATLAB	

3.7.1.1.3. "Rate Factor" (Constant)

Table 3.41. "Rate Factor" Parameters

Parameter	Value
Constant value	1
Interpret vector parameters as 1-D	on
Sampling mode	Sample based
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Inherit from 'Constant value'
Lock output data type setting against changes by the fixed-point tools	off
Sample time	inf
Frame period	inf

3.7.1.1.4. "Uniform Random Number" (UniformRandomNumber)

Table 3.42. "Uniform Random Number" Parameters

Parameter	Value
Minimum	0
Maximum	1
Seed	96286
Sample time	0
Interpret vector parameters as 1-D	on

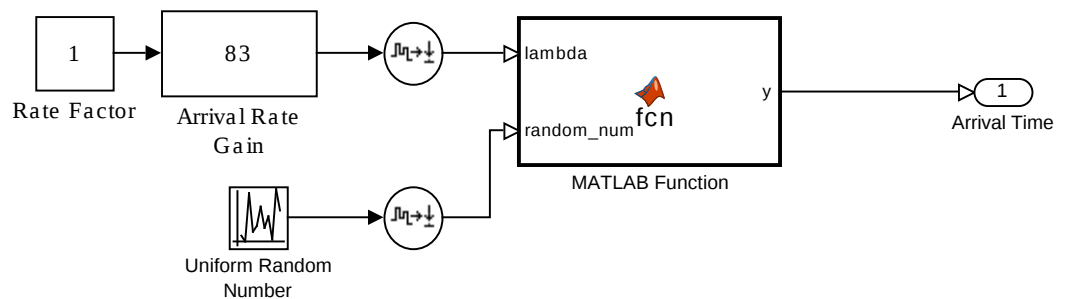
3.8. 2

Figure 3.8. cdnlink_dns/Server_1/ 2

CDNLink

Exponential Distribution

Arrival Packet-Rate Gain



3.8.1. Blocks

3.8.1.1. Parameters

3.8.1.1.1. "Arrival Time" (Outport)

Table 3.43. "Arrival Time" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Minimum	[]
Maximum	[]
Data type	Inherit: auto
Lock output data type setting against changes by the fixed-point tools	off
Output as nonvirtual bus in parent model	off
Port dimensions (-1 for inherited)	-1
Variable-size signal	Inherit

Parameter	Value
Sample time (-1 for inherited)	-1
Source of initial output value	Dialog
Output when disabled	held
Initial output	[]

3.8.1.1.2. "MATLAB Function" (MATLAB Function)

Table 3.44. MATLAB Function Function Properties

Property	Value
Update Method	INHERITED
Sample Time	
Support variable-size arrays	1
Saturate on integer overflow	1
Treat these inherited Simulink signal types as fi objects	Fixed-point
Input fi math	fimath(...)
Description	

Table 3.45. MATLAB Function Argument Summary

Name	Scope	Port	Data Type	Size
lambda	Input	1	double	1
y	Output	1	double	1
random_num	Input	2	double	1

MATLAB Function Function Script

```
function y = fcn(lambda, random_num)
%#codegen

y = (-1/lambda)*log(random_num);
```

Table 3.46. MATLAB Function Supporting Functions

Function	Defined By	Path
coder.internal.assert	MATLAB	

Function	Defined By	Path
coder.internal.div	MATLAB	
coder.internal.isBuiltInNumeric	MATLAB	
log	MATLAB	
mrdivide	MATLAB	
rdivide	MATLAB	
realmax	MATLAB	

3.8.1.1.3. "Rate Factor" (Constant)

Table 3.47. "Rate Factor" Parameters

Parameter	Value
Constant value	1
Interpret vector parameters as 1-D	on
Sampling mode	Sample based
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Inherit from 'Constant value'
Lock output data type setting against changes by the fixed-point tools	off
Sample time	inf
Frame period	inf

3.8.1.1.4. "Uniform Random Number" (UniformRandomNumber)

Table 3.48. "Uniform Random Number" Parameters

Parameter	Value
Minimum	0
Maximum	1
Seed	96286
Sample time	0
Interpret vector parameters as 1-D	on

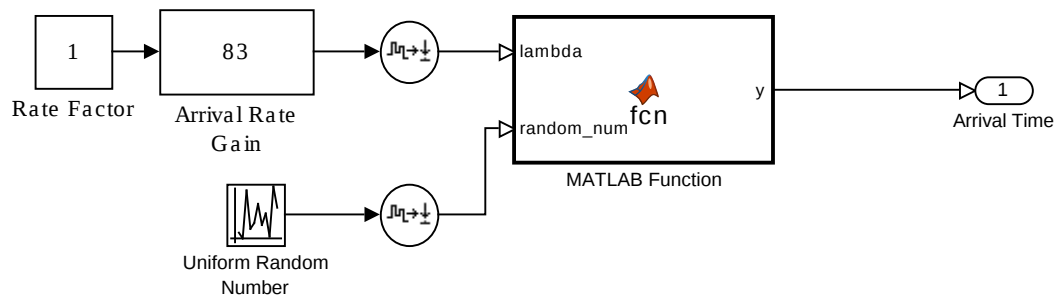
3.9. 2

Figure 3.9. cdnlink_dns/Server_2/ 2

CDNLink

Exponential Distribution

Arrival Packet-Rate Gain



3.9.1. Blocks

3.9.1.1. Parameters

3.9.1.1.1. "Arrival Time" (Outport)

Table 3.49. "Arrival Time" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Minimum	[]
Maximum	[]
Data type	Inherit: auto
Lock output data type setting against changes by the fixed-point tools	off
Output as nonvirtual bus in parent model	off
Port dimensions (-1 for inherited)	-1
Variable-size signal	Inherit

Parameter	Value
Sample time (-1 for inherited)	-1
Source of initial output value	Dialog
Output when disabled	held
Initial output	[]

3.9.1.1.2. "MATLAB Function" (MATLAB Function)

Table 3.50. MATLAB Function Function Properties

Property	Value
Update Method	INHERITED
Sample Time	
Support variable-size arrays	1
Saturate on integer overflow	1
Treat these inherited Simulink signal types as fi objects	Fixed-point
Input fi math	fimath(...)
Description	

Table 3.51. MATLAB Function Argument Summary

Name	Scope	Port	Data Type	Size
lambda	Input	1	double	1
y	Output	1	double	1
random_num	Input	2	double	1

MATLAB Function Function Script

```
function y = fcn(lambda, random_num)
%#codegen

y = (-1/lambda)*log(random_num);
```

Table 3.52. MATLAB Function Supporting Functions

Function	Defined By	Path
coder.internal.assert	MATLAB	

Function	Defined By	Path
coder.internal.div	MATLAB	
coder.internal.isBuiltInNumeric	MATLAB	
log	MATLAB	
mrdivide	MATLAB	
rdivide	MATLAB	
realmax	MATLAB	

3.9.1.1.3. "Rate Factor" (Constant)

Table 3.53. "Rate Factor" Parameters

Parameter	Value
Constant value	1
Interpret vector parameters as 1-D	on
Sampling mode	Sample based
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Inherit from 'Constant value'
Lock output data type setting against changes by the fixed-point tools	off
Sample time	inf
Frame period	inf

3.9.1.1.4. "Uniform Random Number" (UniformRandomNumber)

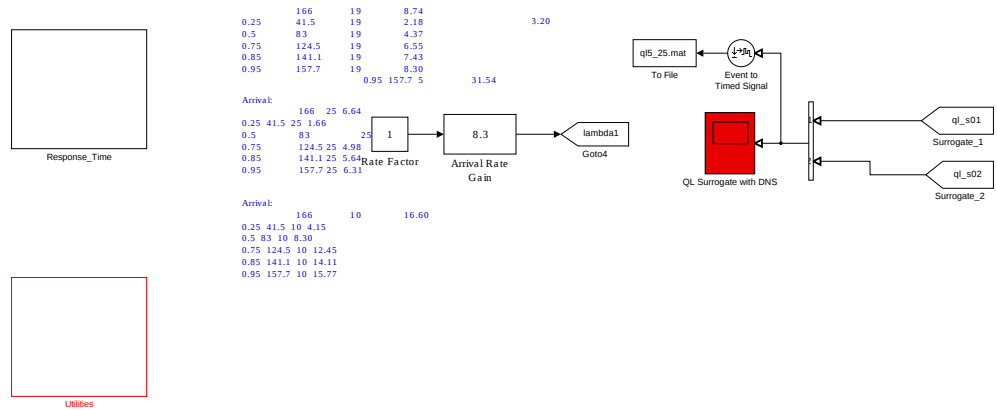
Table 3.54. "Uniform Random Number" Parameters

Parameter	Value
Minimum	0
Maximum	1
Seed	96286
Sample time	0
Interpret vector parameters as 1-D	on

3.10. background

Figure 3.10. cdnlink_dns/background

Instrumentation



3.10.1. Blocks

3.10.1.1. Parameters

3.10.1.1.1. "Goto4" (Goto)

Table 3.55. "Goto4" Parameters

Parameter	Value
Tag	lambda1
Icon display	Tag
Tag visibility	global

3.10.1.1.2. "Mux4" (Mux)

Table 3.56. "Mux4" Parameters

Parameter	Value
Number of inputs	2
Display option	signals

3.10.1.1.3. "Rate Factor" (Constant)

Table 3.57. "Rate Factor" Parameters

Parameter	Value
Constant value	1

Parameter	Value
Interpret vector parameters as 1-D	on
Sampling mode	Sample based
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Inherit from 'Constant value'
Lock output data type setting against changes by the fixed-point tools	off
Sample time	inf
Frame period	inf

3.10.1.1.4. "Surrogate_1" (From)

Table 3.58. "Surrogate_1" Parameters

Parameter	Value
Goto tag	ql_s01
Icon display	Tag

3.10.1.1.5. "Surrogate_2" (From)

Table 3.59. "Surrogate_2" Parameters

Parameter	Value
Goto tag	ql_s02
Icon display	Tag

3.10.1.1.6. "To File" (ToFile)

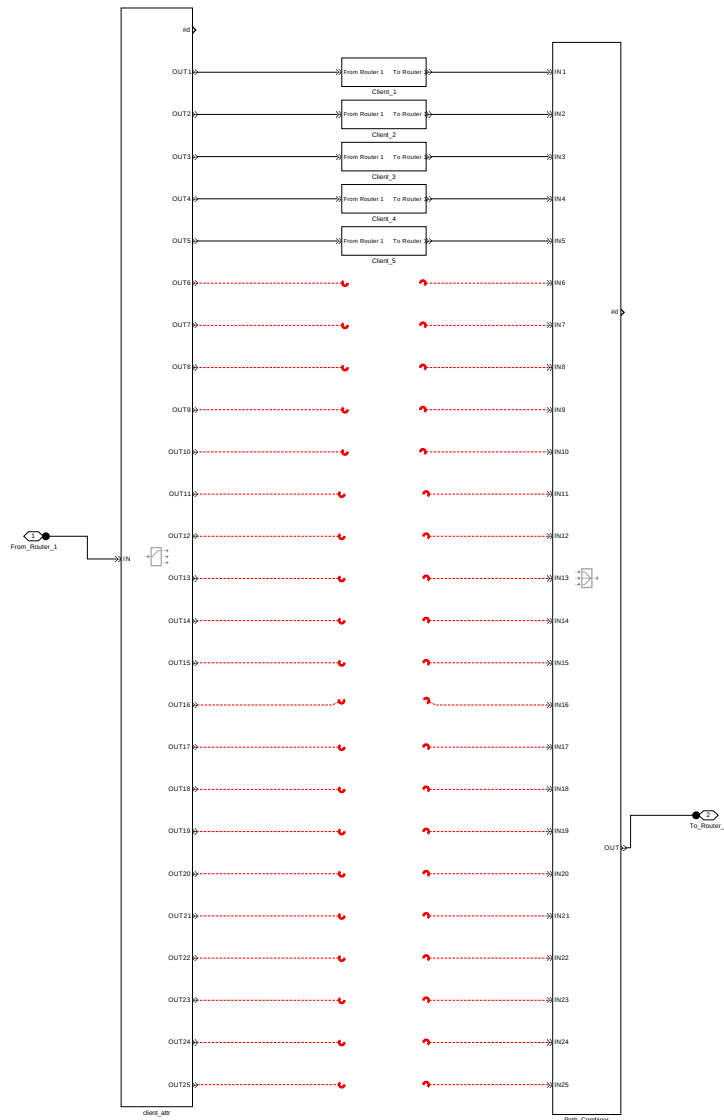
Table 3.60. "To File" Parameters

Parameter	Value
File name	ql5_25.mat
Variable name	ql5_25
Save format	Array
Decimation	2

Parameter	Value
Sample time (-1 for inherited)	-1

3.11. Client

Figure 3.11. cdnlink_dns/Client



3.11.1. Blocks

3.11.1.1. Parameters

3.11.1.1.1. "client_attr" (OutputSwitch)

Table 3.61. "client_attr" Parameters

Parameter	Value
Number of entity output ports	25
Switching criterion	From attribute
Initial seed	34567
Attribute name	client
Specify initial port selection	off
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	off

3.11.1.1.2. "From_Router_1" (PMIOPort)

Table 3.62. "From_Router_1" Parameters

Parameter	Value
Port number	1
Port location on parent subsystem	Right

3.11.1.1.3. "Path_Combiner" (PathCombiner)**Table 3.63. "Path_Combiner" Parameters**

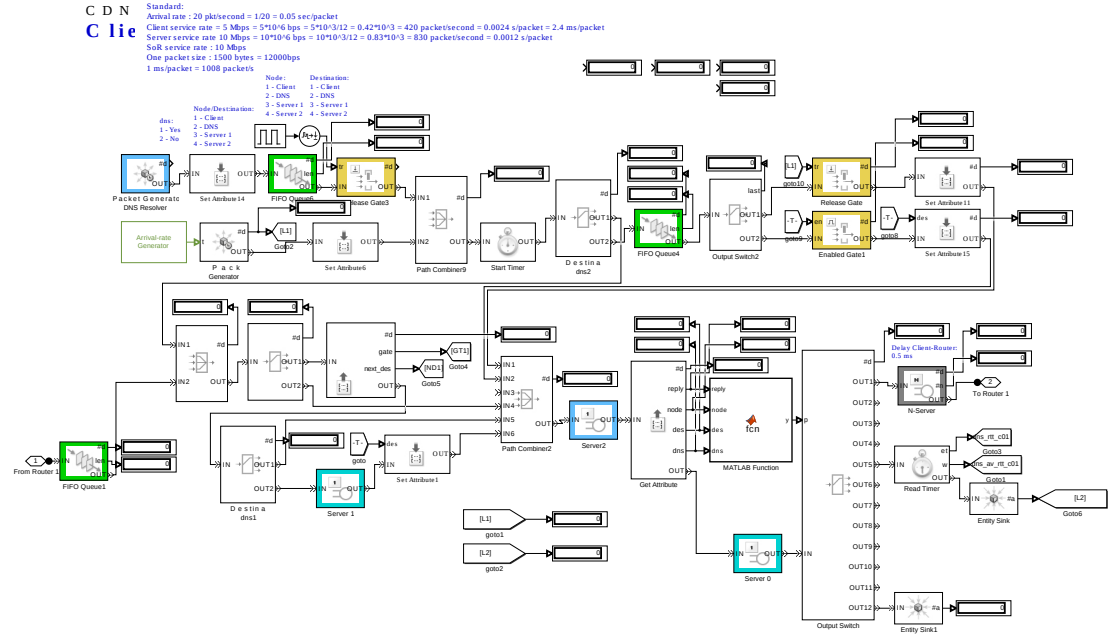
Parameter	Value
Number of entity input ports	25
Input port precedence	IN1 port
Initial seed	45675
Resolve simultaneous signal updates according to event priority	off
Event priority	4100
Number of entities departed, #d	on
Last entity arrival port, last	off

3.11.1.1.4. "To_Router_1" (PMIOPort)**Table 3.64. "To_Router_1" Parameters**

Parameter	Value
Port number	2
Port location on parent subsystem	Right

3.12. Client_1

Figure 3.12. cdnlink_dns/Client/Client_1



3.12.1. Blocks

3.12.1.1. Parameters

3.12.1.1.1. "Destination dns" (OutputSwitch)

Table 3.65. "Destination dns" Parameters

Parameter	Value
Number of entity output ports	2
Switching criterion	From attribute
Initial seed	34567
Attribute name	dns
Specify initial port selection	on
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off

Parameter	Value
Event priority	4000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	off

3.12.1.1.2. "Destination dns1" (OutputSwitch)

Table 3.66. "Destination dns1" Parameters

Parameter	Value
Number of entity output ports	2
Switching criterion	From attribute
Initial seed	34567
Attribute name	reply
Specify initial port selection	on
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	off

3.12.1.1.3. "Destination dns2" (OutputSwitch)**Table 3.67. "Destination dns2" Parameters**

Parameter	Value
Number of entity output ports	2
Switching criterion	From attribute
Initial seed	34567
Attribute name	dns
Specify initial port selection	on
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	off

3.12.1.1.4. "Display1" (Display)**Table 3.68. "Display1" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.5. "Display10" (Display)**Table 3.69. "Display10" Parameters**

Parameter	Value
Format	short

Parameter	Value
Decimation	1
Floating display	off

3.12.1.1.6. "Display11" (Display)

Table 3.70. "Display11" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.7. "Display12" (Display)

Table 3.71. "Display12" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.8. "Display13" (Display)

Table 3.72. "Display13" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.9. "Display14" (Display)

Table 3.73. "Display14" Parameters

Parameter	Value
Format	short
Decimation	1

Parameter	Value
Floating display	off

3.12.1.1.10. "Display15" (Display)

Table 3.74. "Display15" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.11. "Display16" (Display)

Table 3.75. "Display16" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.12. "Display17" (Display)

Table 3.76. "Display17" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.13. "Display18" (Display)

Table 3.77. "Display18" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.14. "Display19" (Display)**Table 3.78. "Display19" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.15. "Display2" (Display)**Table 3.79. "Display2" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.16. "Display20" (Display)**Table 3.80. "Display20" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.17. "Display21" (Display)**Table 3.81. "Display21" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.18. "Display22" (Display)**Table 3.82. "Display22" Parameters**

Parameter	Value
Format	short

Parameter	Value
Decimation	1
Floating display	off

3.12.1.1.19. "Display23" (Display)

Table 3.83. "Display23" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.20. "Display24" (Display)

Table 3.84. "Display24" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.21. "Display25" (Display)

Table 3.85. "Display25" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.22. "Display26" (Display)

Table 3.86. "Display26" Parameters

Parameter	Value
Format	short
Decimation	1

Parameter	Value
Floating display	off

3.12.1.1.23. "Display27" (Display)

Table 3.87. "Display27" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.24. "Display28" (Display)

Table 3.88. "Display28" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.25. "Display29" (Display)

Table 3.89. "Display29" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.26. "Display3" (Display)

Table 3.90. "Display3" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.27. "Display30" (Display)**Table 3.91. "Display30" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.28. "Display31" (Display)**Table 3.92. "Display31" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.29. "Display32" (Display)**Table 3.93. "Display32" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.30. "Display33" (Display)**Table 3.94. "Display33" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.31. "Display34" (Display)**Table 3.95. "Display34" Parameters**

Parameter	Value
Format	short

Parameter	Value
Decimation	1
Floating display	off

3.12.1.1.32. "Display4" (Display)

Table 3.96. "Display4" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.33. "Display5" (Display)

Table 3.97. "Display5" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.34. "Display6" (Display)

Table 3.98. "Display6" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.35. "Display7" (Display)

Table 3.99. "Display7" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.36. "Display8" (Display)**Table 3.100. "Display8" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.37. "Display9" (Display)**Table 3.101. "Display9" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.12.1.1.38. "Enabled Gate1" (EnabledGate)**Table 3.102. "Enabled Gate1" Parameters**

Parameter	Value
Resolve simultaneous signal updates according to event priority	off
Event priority	2000
Number of entities departed, #d	on

3.12.1.1.39. "Entity Sink" (EntitySink)**Table 3.103. "Entity Sink" Parameters**

Parameter	Value
Input port available for entity arrivals	on
Report number of entities arrived, #a	on

3.12.1.1.40. "Entity Sink1" (EntitySink)**Table 3.104. "Entity Sink1" Parameters**

Parameter	Value
Input port available for entity arrivals	on
Report number of entities arrived, #a	on

3.12.1.1.41. "FIFO Queue1" (FIFOQueue)**Table 3.105. "FIFO Queue1" Parameters**

Parameter	Value
Capacity	2000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities in queue, #n	off
Average wait, w	off
Average queue length, len	on
Number of entities time-d-out, #to	off

3.12.1.1.42. "FIFO Queue4" (FIFOQueue)**Table 3.106. "FIFO Queue4" Parameters**

Parameter	Value
Capacity	2000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities in queue, #n	off
Average wait, w	off
Average queue length, len	on

Parameter	Value
Number of entities time-d-out, #to	off

3.12.1.1.43. "FIFO Queue6" (FIFOQueue)

Table 3.107. "FIFO Queue6" Parameters

Parameter	Value
Capacity	2000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities in queue, #n	off
Average wait, w	off
Average queue length, len	on
Number of entities time-d-out, #to	off

3.12.1.1.44. "From Router 1" (PMIOPort)

Table 3.108. "From Router 1" Parameters

Parameter	Value
Port number	1
Port location on parent subsystem	Left

3.12.1.1.45. "Get Attribute" (GetAttribute)

Table 3.109. "Get Attribute" Parameters

Parameter	Value
Attribute names	reply node des dns
If attributes are missing	Error Error Default value Error
Attribute default values	1 1 0 1
Treat vector attributes as 1-D	1 1 1 1

Parameter	Value
Number of entities departed, #d	on

3.12.1.1.46. "Get Attribute7" (GetAttribute)

Table 3.110. "Get Attribute7" Parameters

Parameter	Value
Attribute names	gate next_des
If attributes are missing	Error Error
Attribute default values	0 0
Treat vector attributes as 1-D	1 1
Number of entities departed, #d	on

3.12.1.1.47. "goto" (From)

Table 3.111. "goto" Parameters

Parameter	Value
Goto tag	ND1
Icon display	Tag

3.12.1.1.48. "Goto1" (Goto)

Table 3.112. "Goto1" Parameters

Parameter	Value
Tag	dns_av_rtt_c01
Icon display	Tag
Tag visibility	global

3.12.1.1.49. "goto1" (From)

Table 3.113. "goto1" Parameters

Parameter	Value
Goto tag	L1

Parameter	Value
Icon display	Tag

3.12.1.1.50. "goto10" (From)

Table 3.114. "goto10" Parameters

Parameter	Value
Goto tag	L1
Icon display	Signal name

3.12.1.1.51. "Goto2" (Goto)

Table 3.115. "Goto2" Parameters

Parameter	Value
Tag	L1
Icon display	Tag
Tag visibility	local

3.12.1.1.52. "goto2" (From)

Table 3.116. "goto2" Parameters

Parameter	Value
Goto tag	L2
Icon display	Tag

3.12.1.1.53. "Goto3" (Goto)

Table 3.117. "Goto3" Parameters

Parameter	Value
Tag	dns_rtt_c01
Icon display	Signal name
Tag visibility	global

3.12.1.1.54. "Goto4" (Goto)**Table 3.118. "Goto4" Parameters**

Parameter	Value
Tag	GT1
Icon display	Tag
Tag visibility	local

3.12.1.1.55. "Goto5" (Goto)**Table 3.119. "Goto5" Parameters**

Parameter	Value
Tag	ND1
Icon display	Tag
Tag visibility	local

3.12.1.1.56. "Goto6" (Goto)**Table 3.120. "Goto6" Parameters**

Parameter	Value
Tag	L2
Icon display	Tag
Tag visibility	local

3.12.1.1.57. "goto8" (From)**Table 3.121. "goto8" Parameters**

Parameter	Value
Goto tag	ND1
Icon display	Tag

3.12.1.1.58. "goto9" (From)**Table 3.122. "goto9" Parameters**

Parameter	Value
Goto tag	GT1

Parameter	Value
Icon display	Tag

3.12.1.1.59. "MATLAB Function" (MATLAB Function)

Table 3.123. MATLAB Function Function Properties

Property	Value
Update Method	INHERITED
Sample Time	
Support variable-size arrays	1
Saturate on integer overflow	1
Treat these inherited Simulink signal types as fi objects	Fixed-point
Input fi math	fimath(...)
Description	

Table 3.124. MATLAB Function Argument Summary

Name	Scope	Port	Data Type	Size
y	Output	1	double	1
reply	Input	1	double	1
node	Input	2	double	1
des	Input	3	double	1
dns	Input	4	double	1

MATLAB Function Function Script

```

function y = fcn(reply, node, des, dns)

y = nan;

%if agent == 1
if reply == 1
    y = 1;

else
if reply == 2
    y = 5;
%    if dns == 1
%        y = 9;
%    else

```

```
%      y = 5;
%      end
%      end
%      end

% else
% %if agent == 2
%     if reply == 1
%         y = 1;
%     else
%         if reply == 2
%             y = 9;
%         end
%     end
% %     end
% %     end
```

```
else
    y = 12;

end;
end;
```

```
% ****
% if agent == 1
%     if reply == 1
%         y = 1;
%     else
%         if reply == 2
%             y = 5;
%         end
%     end
%
% else
% if agent == 2
%     if reply == 1
%         y = 1;
%     else
%         if reply == 2
%             y = 9;
%         end
%     end
% end
%
%
% else
%     y = 12;
%
% end;
% end;
```

3.12.1.1.60. "N-Server" (NServer)**Table 3.125. "N-Server" Parameters**

Parameter	Value
Number of servers	10000
Service time from	Dialog
Service time	0.0005
Attribute name	ServiceTime
Service completion event priority	500
Allow service control	off
Service change upon disabling	Pause
Block entity entry to disabled servers	off
Control event priority	2300
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities in block, #n	on
Pending entity present in block, pe	off
Number of pending entities, #pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-d-out, #to	off
Server occupancy, so	off

3.12.1.1.61. "Output Switch" (OutputSwitch)**Table 3.126. "Output Switch" Parameters**

Parameter	Value
Number of entity output ports	12

Parameter	Value
Switching criterion	From signal port p
Initial seed	34567
Attribute name	cluster
Specify initial port selection	off
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	off

3.12.1.1.62. "Output Switch2" (OutputSwitch)

Table 3.127. "Output Switch2" Parameters

Parameter	Value
Number of entity output ports	2
Switching criterion	First port that is not blocked
Initial seed	34567
Attribute name	switch1
Specify initial port selection	off
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4100

Parameter	Value
Enable TO port for time-d-out entities	off
Number of entities departed, #d	off
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	on

3.12.1.1.63. "Packet Generator" (TimeBasedEntityGenerator)

Table 3.128. "Packet Generator" Parameters

Parameter	Value
Generate entities upon	Intergeneration time from port t
Distribution	Exponential
Period	0.05
Initial seed	1234
Minimum	0
Maximum	1
Mean	0.05
Generation event priority	300
Generate entity at simulation start	on
Response when blocked	Error
Response when unblocked	Immediate restart
Entity type	Standard
Attribute names	
Attributes from	
Attribute values	
Treat vectors as 1-D	
Number of entities departed, #d	on
Pending entity present in block, pe	off
Average intergeneration time, w	off

3.12.1.1.64. "Packet Generator for DNS Resolver" (TimeBasedEntityGenerator)**Table 3.129. "Packet Generator for DNS Resolver" Parameters**

Parameter	Value
Generate entities upon	Intergeneration time from dialog
Distribution	Constant
Period	10
Initial seed	6765331
Minimum	0
Maximum	1
Mean	0.05
Generation event priority	300
Generate entity at simulation start	on
Response when blocked	Error
Response when unblocked	Immediate restart
Entity type	Standard
Attribute names	
Attributes from	
Attribute values	
Treat vectors as 1-D	
Number of entities departed, #d	on
Pending entity present in block, pe	off
Average intergeneration time, w	off

3.12.1.1.65. "Path Combiner2" (PathCombiner)**Table 3.130. "Path Combiner2" Parameters**

Parameter	Value
Number of entity input ports	6
Input port precedence	IN1 port
Initial seed	45675
Resolve simultaneous signal updates according to event priority	off
Event priority	4100

Parameter	Value
Number of entities departed, #d	on
Last entity arrival port, last	off

3.12.1.1.66. "Path Combiner8" (PathCombiner)

Table 3.131. "Path Combiner8" Parameters

Parameter	Value
Number of entity input ports	2
Input port precedence	IN1 port
Initial seed	45675
Resolve simultaneous signal updates according to event priority	off
Event priority	4100
Number of entities departed, #d	on
Last entity arrival port, last	off

3.12.1.1.67. "Path Combiner9" (PathCombiner)

Table 3.132. "Path Combiner9" Parameters

Parameter	Value
Number of entity input ports	2
Input port precedence	IN1 port
Initial seed	45675
Resolve simultaneous signal updates according to event priority	off
Event priority	4100
Number of entities departed, #d	on
Last entity arrival port, last	off

3.12.1.1.68. "Pulse Generator1" (DiscretePulseGenerator)**Table 3.133. "Pulse Generator1" Parameters**

Parameter	Value
Pulse type	Time based
Time (t)	Use simulation time
Amplitude	1
Period (secs)	20
Pulse Width (% of period)	5
Phase delay (secs)	0
Sample time	1
Interpret vector parameters as 1-D	on

3.12.1.1.69. "Read Timer" (ReadTimer)**Table 3.134. "Read Timer" Parameters**

Parameter	Value
Timer tag	L2C1
If entity does not have tagged timer	Error
Number of entities departed, #d	off
Number of entities departed with specified tag, #t	off
Elapsed time, et	on
Average elapsed time, w	on

3.12.1.1.70. "Release Gate" (ReleaseGate)**Table 3.135. "Release Gate" Parameters**

Parameter	Value
Open gate upon	Trigger from port tr
Trigger type	Rising
Resolve simultaneous signal updates according to event priority	off
Event priority	2200
Number of entities departed, #d	on

3.12.1.1.71. "Release Gate3" (ReleaseGate)**Table 3.136. "Release Gate3" Parameters**

Parameter	Value
Open gate upon	Trigger from port tr
Trigger type	Rising
Resolve simultaneous signal updates according to event priority	off
Event priority	2200
Number of entities departed, #d	on

3.12.1.1.72. "Server 0" (SingleServer)**Table 3.137. "Server 0" Parameters**

Parameter	Value
Service time from	Dialog
Service time	0
Attribute name	ServiceTimeDNS
Service completion event priority	500
Permit preemption based on attribute	off
Sorting attribute name	PriorityAttributeName
Sorting direction	Ascending
Write residual service time to attribute	off
Residual service time attribute name	ResidualServiceTime
Create attribute if not present	on
Enable TO port for time-out entities	off
Number of entities departed, #d	off
Number of entities in block, #n	off
Number of entities preempted, #p	off

Parameter	Value
Pending entity present in block, pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-d-out, #to	off

3.12.1.1.73. "Server 1" (SingleServer)

Table 3.138. "Server 1" Parameters

Parameter	Value
Service time from	Dialog
Service time	0
Attribute name	ServiceTimeDNS
Service completion event priority	500
Permit preemption based on attribute	off
Sorting attribute name	PriorityAttributeName
Sorting direction	Ascending
Write residual service time to attribute	off
Residual service time attribute name	ResidualServiceTime
Create attribute if not present	on
Enable TO port for time-d-out entities	off
Number of entities departed, #d	off
Number of entities in block, #n	off
Number of entities preempted, #p	off
Pending entity present in block, pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-d-out, #to	off

3.12.1.1.74. "Server2" (SingleServer)**Table 3.139. "Server2" Parameters**

Parameter	Value
Service time from	Dialog
Service time	0
Attribute name	ServiceTimeClient
Service completion event priority	500
Permit preemption based on attribute	off
Sorting attribute name	PriorityAttributeName
Sorting direction	Ascending
Write residual service time to attribute	off
Residual service time attribute name	ResidualServiceTime
Create attribute if not present	on
Enable TO port for time-d-out entities	off
Number of entities departed, #d	off
Number of entities in block, #n	off
Number of entities preempted, #p	off
Pending entity present in block, pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-d-out, #to	off

3.12.1.1.75. "Set Attribute1" (SetAttribute)**Table 3.140. "Set Attribute1" Parameters**

Parameter	Value
Attribute names	node reply dns client des
Attributes from	Dialog Dialog Dialog Dialog Signal port
Attribute values	1 1 2 1 1

Parameter	Value
Treat vectors as 1-D	1 1 1 1 1
Create attributes if not present	on
Number of entities departed, #d	off

3.12.1.1.76. "Set Attribute11" (SetAttribute)

Table 3.141. "Set Attribute11" Parameters

Parameter	Value
Attribute names	des dns gate
Attributes from	Dialog Dialog Dialog
Attribute values	2 2 0
Treat vectors as 1-D	1 1 1
Create attributes if not present	on
Number of entities departed, #d	on

3.12.1.1.77. "Set Attribute14" (SetAttribute)

Table 3.142. "Set Attribute14" Parameters

Parameter	Value
Attribute names	node reply gate dns next_des des client
Attributes from	Dialog Dialog Dialog Dialog Dialog Dialog Dialog
Attribute values	1 1 0 1 1 2 1
Treat vectors as 1-D	1 1 1 1 1 1 1
Create attributes if not present	on
Number of entities departed, #d	off

3.12.1.1.78. "Set Attribute15" (SetAttribute)

Table 3.143. "Set Attribute15" Parameters

Parameter	Value
Attribute names	des

Parameter	Value
Attributes from	Signal port
Attribute values	2
Treat vectors as 1-D	1
Create attributes if not present	on
Number of entities departed, #d	on

3.12.1.1.79. "Set Attribute6" (SetAttribute)

Table 3.144. "Set Attribute6" Parameters

Parameter	Value
Attribute names	node reply dns client des gate next_des
Attributes from	Dialog Dialog Dialog Dialog Dialog Dialog Dialog
Attribute values	1 1 2 1 0 0 0
Treat vectors as 1-D	1 1 1 1 1 1 1
Create attributes if not present	on
Number of entities departed, #d	off

3.12.1.1.80. "Start Timer" (StartTimer)

Table 3.145. "Start Timer" Parameters

Parameter	Value
Timer tag	L2C1
If timer has already started	Warn and continue
Number of entities departed, #d	off

3.12.1.1.81. "To Router 1" (PMIOPort)

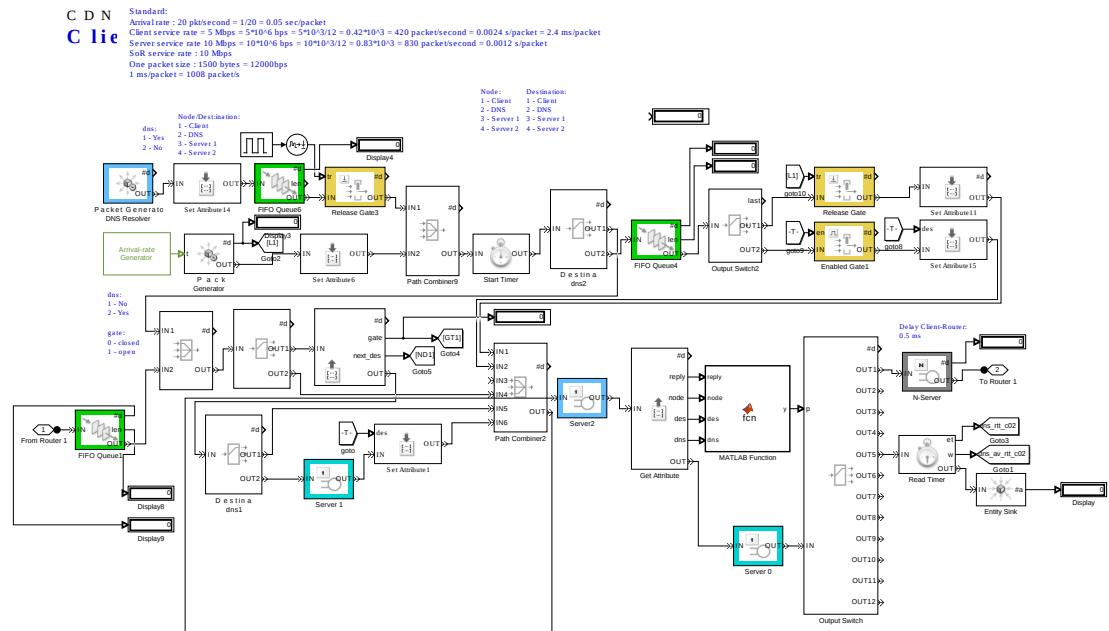
Table 3.146. "To Router 1" Parameters

Parameter	Value
Port number	2

Parameter	Value
Port location on parent subsystem	Right

3.13. Client_2

Figure 3.13. cdnlink_dns/Client/Client_2



3.13.1. Blocks

3.13.1.1. Parameters

3.13.1.1.1. "Destination dns" (OutputSwitch)

Table 3.147. "Destination dns" Parameters

Parameter	Value
Number of entity output ports	2
Switching criterion	From attribute
Initial seed	34567
Attribute name	dns
Specify initial port selection	on
Initial port selection	1
Store entity before switching	off

Parameter	Value
Resolve simultaneous signal updates according to event priority	off
Event priority	4000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	off

3.13.1.1.2. "Destination dns1" (OutputSwitch)

Table 3.148. "Destination dns1" Parameters

Parameter	Value
Number of entity output ports	2
Switching criterion	From attribute
Initial seed	34567
Attribute name	reply
Specify initial port selection	on
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off

Parameter	Value
Last entity departure port, last	off

3.13.1.1.3. "Destination dns2" (OutputSwitch)

Table 3.149. "Destination dns2" Parameters

Parameter	Value
Number of entity output ports	2
Switching criterion	From attribute
Initial seed	34567
Attribute name	dns
Specify initial port selection	on
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4000
Enable TO port for time-out entities	off
Number of entities departed, #d	on
Number of entities time-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	off

3.13.1.1.4. "Display" (Display)

Table 3.150. "Display" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.13.1.1.5. "Display1" (Display)**Table 3.151. "Display1" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.13.1.1.6. "Display2" (Display)**Table 3.152. "Display2" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.13.1.1.7. "Display3" (Display)**Table 3.153. "Display3" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.13.1.1.8. "Display4" (Display)**Table 3.154. "Display4" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.13.1.1.9. "Display5" (Display)**Table 3.155. "Display5" Parameters**

Parameter	Value
Format	short

Parameter	Value
Decimation	1
Floating display	off

3.13.1.1.10. "Display6" (Display)

Table 3.156. "Display6" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.13.1.1.11. "Display7" (Display)

Table 3.157. "Display7" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.13.1.1.12. "Display8" (Display)

Table 3.158. "Display8" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.13.1.1.13. "Display9" (Display)

Table 3.159. "Display9" Parameters

Parameter	Value
Format	short
Decimation	1

Parameter	Value
Floating display	off

3.13.1.1.14. "Enabled Gate1" (EnabledGate)

Table 3.160. "Enabled Gate1" Parameters

Parameter	Value
Resolve simultaneous signal updates according to event priority	off
Event priority	2000
Number of entities departed, #d	on

3.13.1.1.15. "Entity Sink" (EntitySink)

Table 3.161. "Entity Sink" Parameters

Parameter	Value
Input port available for entity arrivals	on
Report number of entities arrived, #a	on

3.13.1.1.16. "FIFO Queue1" (FIFOQueue)

Table 3.162. "FIFO Queue1" Parameters

Parameter	Value
Capacity	2000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities in queue, #n	off
Average wait, w	off
Average queue length, len	on
Number of entities time-d-out, #to	off

3.13.1.1.17. "FIFO Queue4" (FIFOQueue)**Table 3.163. "FIFO Queue4" Parameters**

Parameter	Value
Capacity	2000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities in queue, #n	off
Average wait, w	off
Average queue length, len	on
Number of entities time-d-out, #to	off

3.13.1.1.18. "FIFO Queue6" (FIFOQueue)**Table 3.164. "FIFO Queue6" Parameters**

Parameter	Value
Capacity	2000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities in queue, #n	off
Average wait, w	off
Average queue length, len	on
Number of entities time-d-out, #to	off

3.13.1.1.19. "From Router 1" (PMIOPort)**Table 3.165. "From Router 1" Parameters**

Parameter	Value
Port number	1
Port location on parent subsystem	Left

3.13.1.1.20. "Get Attribute" (GetAttribute)**Table 3.166. "Get Attribute" Parameters**

Parameter	Value
Attribute names	reply node des dns
If attributes are missing	Error Error Default value Error
Attribute default values	1 1 0 1
Treat vector attributes as 1-D	1 1 1 1
Number of entities departed, #d	on

3.13.1.1.21. "Get Attribute7" (GetAttribute)**Table 3.167. "Get Attribute7" Parameters**

Parameter	Value
Attribute names	gate next_des
If attributes are missing	Error Error
Attribute default values	0 0
Treat vector attributes as 1-D	1 1
Number of entities departed, #d	on

3.13.1.1.22. "goto" (From)**Table 3.168. "goto" Parameters**

Parameter	Value
Goto tag	ND1
Icon display	Tag

3.13.1.1.23. "Goto1" (Goto)**Table 3.169. "Goto1" Parameters**

Parameter	Value
Tag	dns_av_rtt_c02

Parameter	Value
Icon display	Tag
Tag visibility	global

3.13.1.1.24. "goto10" (From)

Table 3.170. "goto10" Parameters

Parameter	Value
Goto tag	L1
Icon display	Signal name

3.13.1.1.25. "Goto2" (Goto)

Table 3.171. "Goto2" Parameters

Parameter	Value
Tag	L1
Icon display	Tag
Tag visibility	local

3.13.1.1.26. "Goto3" (Goto)

Table 3.172. "Goto3" Parameters

Parameter	Value
Tag	dns_rtt_c02
Icon display	Signal name
Tag visibility	global

3.13.1.1.27. "Goto4" (Goto)

Table 3.173. "Goto4" Parameters

Parameter	Value
Tag	GT1
Icon display	Tag
Tag visibility	local

3.13.1.1.28. "Goto5" (Goto)**Table 3.174. "Goto5" Parameters**

Parameter	Value
Tag	ND1
Icon display	Tag
Tag visibility	local

3.13.1.1.29. "goto8" (From)**Table 3.175. "goto8" Parameters**

Parameter	Value
Goto tag	ND1
Icon display	Tag

3.13.1.1.30. "goto9" (From)**Table 3.176. "goto9" Parameters**

Parameter	Value
Goto tag	GT1
Icon display	Tag

3.13.1.1.31. "MATLAB Function" (MATLAB Function)**Table 3.177. MATLAB Function Function Properties**

Property	Value
Update Method	INHERITED
Sample Time	
Support variable-size arrays	1
Saturate on integer overflow	1
Treat these inherited Simulink signal types as fi objects	Fixed-point
Input fi math	fimath(...))
Description	

Table 3.178. MATLAB Function Argument Summary

Name	Scope	Port	Data Type	Size
y	Output	1	double	1
reply	Input	1	double	1
node	Input	2	double	1
des	Input	3	double	1
dns	Input	4	double	1

MATLAB Function Function Script

```
function y = fcn(reply, node, des, dns)
```

```
y = nan;
```

```
%if agent == 1
```

```
if reply == 1
```

```
    y = 1;
```

```
else
```

```
if reply == 2
```

```
    y = 5;
```

```
%    if dns == 1
```

```
%        y = 9;
```

```
%    else
```

```
%        y = 5;
```

```
%    end
```

```
%        end
```

```
%    end
```

```
% else
```

```
% %if agent == 2
```

```
%     if reply == 1
```

```
%         y = 1;
```

```
%     else
```

```
%         if reply == 2
```

```
%             y = 9;
```

```
% %     end
```

```
% %     end
```

```
else
```

```
    y = 12;
```

```
end;
```

```
end;
```

```
% ****
% if agent == 1
%     if reply == 1
%         y = 1;
%     else
%         if reply == 2
%             y = 5;
%         end
%     end
%
% else
% if agent == 2
%     if reply == 1
%         y = 1;
%     else
%         if reply == 2
%             y = 9;
%         end
%     end
%
% else
%     y = 12;
%
% end;
% end;
```

3.13.1.1.32. "N-Server" (NServer)

Table 3.179. "N-Server" Parameters

Parameter	Value
Number of servers	10000
Service time from	Dialog
Service time	0.0005
Attribute name	ServiceTime
Service completion event priority	500
Allow service control	off
Service change upon disabling	Pause
Block entity entry to disabled servers	off
Control event priority	2300
Enable TO port for time-out entities	off

Parameter	Value
Number of entities departed, #d	on
Number of entities in block, #n	off
Pending entity present in block, pe	off
Number of pending entities, #pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-d-out, #to	off
Server occupancy, so	off

3.13.1.1.33. "Output Switch" (OutputSwitch)

Table 3.180. "Output Switch" Parameters

Parameter	Value
Number of entity output ports	12
Switching criterion	From signal port p
Initial seed	34567
Attribute name	cluster
Specify initial port selection	off
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	off

3.13.1.1.34. "Output Switch2" (OutputSwitch)**Table 3.181. "Output Switch2" Parameters**

Parameter	Value
Number of entity output ports	2
Switching criterion	First port that is not blocked
Initial seed	34567
Attribute name	switch1
Specify initial port selection	off
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4100
Enable TO port for time-d-out entities	off
Number of entities departed, #d	off
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	on

3.13.1.1.35. "Packet Generator" (TimeBasedEntityGenerator)**Table 3.182. "Packet Generator" Parameters**

Parameter	Value
Generate entities upon	Intergeneration time from port t
Distribution	Exponential
Period	0.05
Initial seed	1234
Minimum	0
Maximum	1
Mean	0.05

Parameter	Value
Generation event priority	300
Generate entity at simulation start	on
Response when blocked	Error
Response when unblocked	Immediate restart
Entity type	Standard
Attribute names	
Attributes from	
Attribute values	
Treat vectors as 1-D	
Number of entities departed, #d	on
Pending entity present in block, pe	off
Average intergeneration time, w	off

3.13.1.1.36. "Packet Generator for DNS Resolver" (TimeBasedEntityGenerator)

Table 3.183. "Packet Generator for DNS Resolver" Parameters

Parameter	Value
Generate entities upon	Intergeneration time from dialog
Distribution	Constant
Period	10
Initial seed	6765331
Minimum	0
Maximum	1
Mean	0.05
Generation event priority	300
Generate entity at simulation start	on
Response when blocked	Error
Response when unblocked	Immediate restart
Entity type	Standard
Attribute names	
Attributes from	
Attribute values	

Parameter	Value
Treat vectors as 1-D	
Number of entities departed, #d	on
Pending entity present in block, pe	off
Average intergeneration time, w	off

3.13.1.1.37. "Path Combiner2" (PathCombiner)

Table 3.184. "Path Combiner2" Parameters

Parameter	Value
Number of entity input ports	6
Input port precedence	IN1 port
Initial seed	45675
Resolve simultaneous signal updates according to event priority	off
Event priority	4100
Number of entities departed, #d	on
Last entity arrival port, last	off

3.13.1.1.38. "Path Combiner8" (PathCombiner)

Table 3.185. "Path Combiner8" Parameters

Parameter	Value
Number of entity input ports	2
Input port precedence	IN1 port
Initial seed	45675
Resolve simultaneous signal updates according to event priority	off
Event priority	4100
Number of entities departed, #d	on
Last entity arrival port, last	off

3.13.1.1.39. "Path Combiner9" (PathCombiner)**Table 3.186. "Path Combiner9" Parameters**

Parameter	Value
Number of entity input ports	2
Input port precedence	IN1 port
Initial seed	45675
Resolve simultaneous signal updates according to event priority	off
Event priority	4100
Number of entities departed, #d	on
Last entity arrival port, last	off

3.13.1.1.40. "Pulse Generator1" (DiscretePulseGenerator)**Table 3.187. "Pulse Generator1" Parameters**

Parameter	Value
Pulse type	Time based
Time (t)	Use simulation time
Amplitude	1
Period (secs)	20
Pulse Width (% of period)	5
Phase delay (secs)	0
Sample time	1
Interpret vector parameters as 1-D	on

3.13.1.1.41. "Read Timer" (ReadTimer)**Table 3.188. "Read Timer" Parameters**

Parameter	Value
Timer tag	L2C1
If entity does not have tagged timer	Error

Parameter	Value
Number of entities departed, #d	off
Number of entities departed with specified tag, #t	off
Elapsed time, et	on
Average elapsed time, w	on

3.13.1.1.42. "Release Gate" (ReleaseGate)

Table 3.189. "Release Gate" Parameters

Parameter	Value
Open gate upon	Trigger from port tr
Trigger type	Rising
Resolve simultaneous signal updates according to event priority	off
Event priority	2200
Number of entities departed, #d	on

3.13.1.1.43. "Release Gate3" (ReleaseGate)

Table 3.190. "Release Gate3" Parameters

Parameter	Value
Open gate upon	Trigger from port tr
Trigger type	Rising
Resolve simultaneous signal updates according to event priority	off
Event priority	2200
Number of entities departed, #d	on

3.13.1.1.44. "Server 0" (SingleServer)

Table 3.191. "Server 0" Parameters

Parameter	Value
Service time from	Dialog

Parameter	Value
Service time	0
Attribute name	ServiceTimeDNS
Service completion event priority	500
Permit preemption based on attribute	off
Sorting attribute name	PriorityAttributeName
Sorting direction	Ascending
Write residual service time to attribute	off
Residual service time attribute name	ResidualServiceTime
Create attribute if not present	on
Enable TO port for time-d-out entities	off
Number of entities departed, #d	off
Number of entities in block, #n	off
Number of entities preempted, #p	off
Pending entity present in block, pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-d-out, #to	off

3.13.1.1.45. "Server 1" (SingleServer)

Table 3.192. "Server 1" Parameters

Parameter	Value
Service time from	Dialog
Service time	0
Attribute name	ServiceTimeDNS
Service completion event priority	500
Permit preemption based on attribute	off
Sorting attribute name	PriorityAttributeName

Parameter	Value
Sorting direction	Ascending
Write residual service time to attribute	off
Residual service time attribute name	ResidualServiceTime
Create attribute if not present	on
Enable TO port for time-out entities	off
Number of entities departed, #d	off
Number of entities in block, #n	off
Number of entities preempted, #p	off
Pending entity present in block, pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-out, #to	off

3.13.1.1.46. "Server2" (SingleServer)

Table 3.193. "Server2" Parameters

Parameter	Value
Service time from	Dialog
Service time	0
Attribute name	ServiceTimeClient
Service completion event priority	500
Permit preemption based on attribute	off
Sorting attribute name	PriorityAttributeName
Sorting direction	Ascending
Write residual service time to attribute	off
Residual service time attribute name	ResidualServiceTime
Create attribute if not present	on

Parameter	Value
Enable TO port for time-out entities	off
Number of entities departed, #d	off
Number of entities in block, #n	off
Number of entities preempted, #p	off
Pending entity present in block, pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-out, #to	off

3.13.1.1.47. "Set Attribute1" (SetAttribute)

Table 3.194. "Set Attribute1" Parameters

Parameter	Value
Attribute names	node reply dns client des
Attributes from	Dialog Dialog Dialog Dialog Signal port
Attribute values	1 1 2 2 1
Treat vectors as 1-D	1 1 1 1 1
Create attributes if not present	on
Number of entities departed, #d	off

3.13.1.1.48. "Set Attribute11" (SetAttribute)

Table 3.195. "Set Attribute11" Parameters

Parameter	Value
Attribute names	des dns gate
Attributes from	Dialog Dialog Dialog
Attribute values	2 2 0
Treat vectors as 1-D	1 1 1
Create attributes if not present	on
Number of entities departed, #d	on

3.13.1.1.49. "Set Attribute14" (SetAttribute)**Table 3.196. "Set Attribute14" Parameters**

Parameter	Value
Attribute names	node reply gate dns next_des des client
Attributes from	Dialog Dialog Dialog Dialog Dialog Dialog Dialog
Attribute values	1 1 0 1 1 2 2
Treat vectors as 1-D	1 1 1 1 1 1 1
Create attributes if not present	on
Number of entities departed, #d	off

3.13.1.1.50. "Set Attribute15" (SetAttribute)**Table 3.197. "Set Attribute15" Parameters**

Parameter	Value
Attribute names	des
Attributes from	Signal port
Attribute values	2
Treat vectors as 1-D	1
Create attributes if not present	on
Number of entities departed, #d	off

3.13.1.1.51. "Set Attribute6" (SetAttribute)**Table 3.198. "Set Attribute6" Parameters**

Parameter	Value
Attribute names	node reply dns client des gate next_des
Attributes from	Dialog Dialog Dialog Dialog Dialog Dialog Dialog
Attribute values	1 1 2 2 0 0 0
Treat vectors as 1-D	1 1 1 1 1 1 1
Create attributes if not present	on
Number of entities departed, #d	off

3.13.1.1.52. "Start Timer" (StartTimer)

Table 3.199. "Start Timer" Parameters

Parameter	Value
Timer tag	L2C1
If timer has already started	Warn and continue
Number of entities departed, #d	off

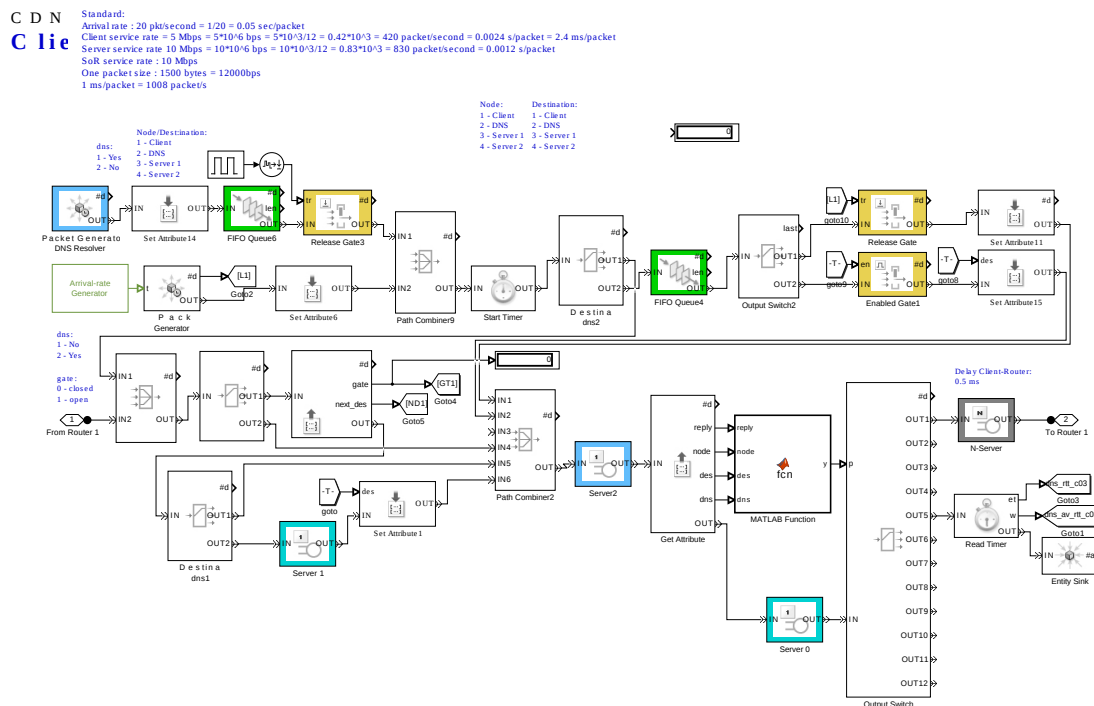
3.13.1.1.53. "To Router 1" (PMIOPort)

Table 3.200. "To Router 1" Parameters

Parameter	Value
Port number	2
Port location on parent subsystem	Right

3.14. Client_3

Figure 3.14. cdnlink_dns/Client/Client_3



3.14.1. Blocks

3.14.1.1. Parameters

3.14.1.1.1. "Destination dns" (OutputSwitch)

Table 3.201. "Destination dns" Parameters

Parameter	Value
Number of entity output ports	2
Switching criterion	From attribute
Initial seed	34567
Attribute name	dns
Specify initial port selection	on
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	off

3.14.1.1.2. "Destination dns1" (OutputSwitch)

Table 3.202. "Destination dns1" Parameters

Parameter	Value
Number of entity output ports	2
Switching criterion	From attribute
Initial seed	34567

Parameter	Value
Attribute name	reply
Specify initial port selection	on
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	off

3.14.1.1.3. "Destination dns2" (OutputSwitch)

Table 3.203. "Destination dns2" Parameters

Parameter	Value
Number of entity output ports	2
Switching criterion	From attribute
Initial seed	34567
Attribute name	dns
Specify initial port selection	on
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4000
Enable TO port for time-d-out entities	off

Parameter	Value
Number of entities departed, #d	on
Number of entities time-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	off

3.14.1.1.4. "Display1" (Display)

Table 3.204. "Display1" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.14.1.1.5. "Display2" (Display)

Table 3.205. "Display2" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.14.1.1.6. "Enabled Gate1" (EnabledGate)

Table 3.206. "Enabled Gate1" Parameters

Parameter	Value
Resolve simultaneous signal updates according to event priority	off
Event priority	2000
Number of entities departed, #d	on

3.14.1.1.7. "Entity Sink" (EntitySink)**Table 3.207. "Entity Sink" Parameters**

Parameter	Value
Input port available for entity arrivals	on
Report number of entities arrived, #a	on

3.14.1.1.8. "FIFO Queue4" (FIFOQueue)**Table 3.208. "FIFO Queue4" Parameters**

Parameter	Value
Capacity	2000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities in queue, #n	off
Average wait, w	off
Average queue length, len	on
Number of entities time-d-out, #to	off

3.14.1.1.9. "FIFO Queue6" (FIFOQueue)**Table 3.209. "FIFO Queue6" Parameters**

Parameter	Value
Capacity	2000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities in queue, #n	off
Average wait, w	off
Average queue length, len	on

Parameter	Value
Number of entities time-out, #to	off

3.14.1.1.10. "From Router 1" (PMIOPort)

Table 3.210. "From Router 1" Parameters

Parameter	Value
Port number	1
Port location on parent subsystem	Left

3.14.1.1.11. "Get Attribute" (GetAttribute)

Table 3.211. "Get Attribute" Parameters

Parameter	Value
Attribute names	reply node des dns
If attributes are missing	Error Error Default value Error
Attribute default values	1 1 0 1
Treat vector attributes as 1-D	1 1 1 1
Number of entities departed, #d	on

3.14.1.1.12. "Get Attribute7" (GetAttribute)

Table 3.212. "Get Attribute7" Parameters

Parameter	Value
Attribute names	gate next_des
If attributes are missing	Error Error
Attribute default values	0 0
Treat vector attributes as 1-D	1 1
Number of entities departed, #d	on

3.14.1.1.13. "goto" (From)**Table 3.213. "goto" Parameters**

Parameter	Value
Goto tag	ND1
Icon display	Tag

3.14.1.1.14. "Goto1" (Goto)**Table 3.214. "Goto1" Parameters**

Parameter	Value
Tag	dns_av_rtt_c03
Icon display	Tag
Tag visibility	global

3.14.1.1.15. "goto10" (From)**Table 3.215. "goto10" Parameters**

Parameter	Value
Goto tag	L1
Icon display	Signal name

3.14.1.1.16. "Goto2" (Goto)**Table 3.216. "Goto2" Parameters**

Parameter	Value
Tag	L1
Icon display	Tag
Tag visibility	local

3.14.1.1.17. "Goto3" (Goto)**Table 3.217. "Goto3" Parameters**

Parameter	Value
Tag	dns_rtt_c03
Icon display	Signal name
Tag visibility	global

3.14.1.1.18. "Goto4" (Goto)**Table 3.218. "Goto4" Parameters**

Parameter	Value
Tag	GT1
Icon display	Tag
Tag visibility	local

3.14.1.1.19. "Goto5" (Goto)**Table 3.219. "Goto5" Parameters**

Parameter	Value
Tag	ND1
Icon display	Tag
Tag visibility	local

3.14.1.1.20. "goto8" (From)**Table 3.220. "goto8" Parameters**

Parameter	Value
Goto tag	ND1
Icon display	Tag

3.14.1.1.21. "goto9" (From)**Table 3.221. "goto9" Parameters**

Parameter	Value
Goto tag	GT1
Icon display	Tag

3.14.1.1.22. "MATLAB Function" (MATLAB Function)**Table 3.222. MATLAB Function Function Properties**

Property	Value
Update Method	INHERITED

Property	Value
Sample Time	
Support variable-size arrays	1
Saturate on integer overflow	1
Treat these inherited Simulink signal types as fi objects	Fixed-point
Input fi math	fimath(...)
Description	

Table 3.223. MATLAB Function Argument Summary

Name	Scope	Port	Data Type	Size
y	Output	1	double	1
reply	Input	1	double	1
node	Input	2	double	1
des	Input	3	double	1
dns	Input	4	double	1

MATLAB Function Function Script

```
function y = fcn(reply, node, des, dns)
```

```
y = nan;
```

```
%if agent == 1
```

```
if reply == 1
```

```
    y = 1;
```

```
else
```

```
if reply == 2
```

```
    y = 5;
```

```
%    if dns == 1
```

```
%        y = 9;
```

```
%    else
```

```
%        y = 5;
```

```
%    end
```

```
%    end
```

```
%    end
```

```
% else
```

```
% %if agent == 2
```

```
%     if reply == 1
```

```
%         y = 1;
```

```
%     else
```

```
%         if reply == 2
```

```
%             y = 9;
```

```
% %    end
% %    end
```

```
else
    y = 12;

end;
end;
```

```
% ****
% if agent == 1
%     if reply == 1
%         y = 1;
%     else
%         if reply == 2
%             y = 5;
%         end
%     end
%
% else
% if agent == 2
%     if reply == 1
%         y = 1;
%     else
%         if reply == 2
%             y = 9;
%         end
%     end
%
%
% else
%     y = 12;
%
% end;
% end;
```

3.14.1.1.23. "N-Server" (NServer)

Table 3.224. "N-Server" Parameters

Parameter	Value
Number of servers	10000
Service time from	Dialog

Parameter	Value
Service time	0.0005
Attribute name	ServiceTime
Service completion event priority	500
Allow service control	off
Service change upon disabling	Pause
Block entity entry to disabled servers	off
Control event priority	2300
Enable TO port for time-d-out entities	off
Number of entities departed, #d	off
Number of entities in block, #n	off
Pending entity present in block, pe	off
Number of pending entities, #pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-d-out, #to	off
Server occupancy, so	off

3.14.1.1.24. "Output Switch" (OutputSwitch)

Table 3.225. "Output Switch" Parameters

Parameter	Value
Number of entity output ports	12
Switching criterion	From signal port p
Initial seed	34567
Attribute name	cluster
Specify initial port selection	off
Initial port selection	1
Store entity before switching	off

Parameter	Value
Resolve simultaneous signal updates according to event priority	off
Event priority	4000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	off

3.14.1.1.25. "Output Switch2" (OutputSwitch)

Table 3.226. "Output Switch2" Parameters

Parameter	Value
Number of entity output ports	2
Switching criterion	First port that is not blocked
Initial seed	34567
Attribute name	switch1
Specify initial port selection	off
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4100
Enable TO port for time-d-out entities	off
Number of entities departed, #d	off
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off

Parameter	Value
Last entity departure port, last	on

3.14.1.1.26. "Packet Generator" (TimeBasedEntityGenerator)

Table 3.227. "Packet Generator" Parameters

Parameter	Value
Generate entities upon	Intergeneration time from port t
Distribution	Exponential
Period	0.05
Initial seed	1234
Minimum	0
Maximum	1
Mean	0.05
Generation event priority	300
Generate entity at simulation start	on
Response when blocked	Error
Response when unblocked	Immediate restart
Entity type	Standard
Attribute names	
Attributes from	
Attribute values	
Treat vectors as 1-D	
Number of entities departed, #d	on
Pending entity present in block, pe	off
Average intergeneration time, w	off

3.14.1.1.27. "Packet Generator for DNS Resolver" (TimeBasedEntityGenerator)

Table 3.228. "Packet Generator for DNS Resolver" Parameters

Parameter	Value
Generate entities upon	Intergeneration time from dialog

Parameter	Value
Distribution	Constant
Period	10
Initial seed	6765331
Minimum	0
Maximum	1
Mean	0.05
Generation event priority	300
Generate entity at simulation start	on
Response when blocked	Error
Response when unblocked	Immediate restart
Entity type	Standard
Attribute names	
Attributes from	
Attribute values	
Treat vectors as 1-D	
Number of entities departed, #d	on
Pending entity present in block, pe	off
Average intergeneration time, w	off

3.14.1.1.28. "Path Combiner2" (PathCombiner)

Table 3.229. "Path Combiner2" Parameters

Parameter	Value
Number of entity input ports	6
Input port precedence	IN1 port
Initial seed	45675
Resolve simultaneous signal updates according to event priority	off
Event priority	4100
Number of entities departed, #d	on
Last entity arrival port, last	off

3.14.1.1.29. "Path Combiner8" (PathCombiner)**Table 3.230. "Path Combiner8" Parameters**

Parameter	Value
Number of entity input ports	2
Input port precedence	IN1 port
Initial seed	45675
Resolve simultaneous signal updates according to event priority	off
Event priority	4100
Number of entities departed, #d	on
Last entity arrival port, last	off

3.14.1.1.30. "Path Combiner9" (PathCombiner)**Table 3.231. "Path Combiner9" Parameters**

Parameter	Value
Number of entity input ports	2
Input port precedence	IN1 port
Initial seed	45675
Resolve simultaneous signal updates according to event priority	off
Event priority	4100
Number of entities departed, #d	on
Last entity arrival port, last	off

3.14.1.1.31. "Pulse Generator1" (DiscretePulseGenerator)**Table 3.232. "Pulse Generator1" Parameters**

Parameter	Value
Pulse type	Time based

Parameter	Value
Time (t)	Use simulation time
Amplitude	1
Period (secs)	20
Pulse Width (% of period)	5
Phase delay (secs)	0
Sample time	1
Interpret vector parameters as 1-D	on

3.14.1.1.32. "Read Timer" (ReadTimer)

Table 3.233. "Read Timer" Parameters

Parameter	Value
Timer tag	L2C1
If entity does not have tagged timer	Error
Number of entities departed, #d	off
Number of entities departed with specified tag, #t	off
Elapsed time, et	on
Average elapsed time, w	on

3.14.1.1.33. "Release Gate" (ReleaseGate)

Table 3.234. "Release Gate" Parameters

Parameter	Value
Open gate upon	Trigger from port tr
Trigger type	Rising
Resolve simultaneous signal updates according to event priority	off
Event priority	2200
Number of entities departed, #d	on

3.14.1.1.34. "Release Gate3" (ReleaseGate)**Table 3.235. "Release Gate3" Parameters**

Parameter	Value
Open gate upon	Trigger from port tr
Trigger type	Rising
Resolve simultaneous signal updates according to event priority	off
Event priority	2200
Number of entities departed, #d	on

3.14.1.1.35. "Server 0" (SingleServer)**Table 3.236. "Server 0" Parameters**

Parameter	Value
Service time from	Dialog
Service time	0
Attribute name	ServiceTimeDNS
Service completion event priority	500
Permit preemption based on attribute	off
Sorting attribute name	PriorityAttributeName
Sorting direction	Ascending
Write residual service time to attribute	off
Residual service time attribute name	ResidualServiceTime
Create attribute if not present	on
Enable TO port for time-d-out entities	off
Number of entities departed, #d	off
Number of entities in block, #n	off
Number of entities preempted, #p	off
Pending entity present in block, pe	off

Parameter	Value
Average wait, w	off
Utilization, util	off
Number of entities time-d-out, #to	off

3.14.1.1.36. "Server 1" (SingleServer)

Table 3.237. "Server 1" Parameters

Parameter	Value
Service time from	Dialog
Service time	0
Attribute name	ServiceTimeDNS
Service completion event priority	500
Permit preemption based on attribute	off
Sorting attribute name	PriorityAttributeName
Sorting direction	Ascending
Write residual service time to attribute	off
Residual service time attribute name	ResidualServiceTime
Create attribute if not present	on
Enable TO port for time-d-out entities	off
Number of entities departed, #d	off
Number of entities in block, #n	off
Number of entities preempted, #p	off
Pending entity present in block, pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-d-out, #to	off

3.14.1.1.37. "Server2" (SingleServer)**Table 3.238. "Server2" Parameters**

Parameter	Value
Service time from	Dialog
Service time	0
Attribute name	ServiceTimeClient
Service completion event priority	500
Permit preemption based on attribute	off
Sorting attribute name	PriorityAttributeName
Sorting direction	Ascending
Write residual service time to attribute	off
Residual service time attribute name	ResidualServiceTime
Create attribute if not present	on
Enable TO port for time-d-out entities	off
Number of entities departed, #d	off
Number of entities in block, #n	off
Number of entities preempted, #p	off
Pending entity present in block, pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-d-out, #to	off

3.14.1.1.38. "Set Attribute1" (SetAttribute)**Table 3.239. "Set Attribute1" Parameters**

Parameter	Value
Attribute names	node reply dns client des
Attributes from	Dialog Dialog Dialog Dialog Signal port
Attribute values	1 1 2 3 1

Parameter	Value
Treat vectors as 1-D	1 1 1 1 1
Create attributes if not present	on
Number of entities departed, #d	off

3.14.1.1.39. "Set Attribute11" (SetAttribute)

Table 3.240. "Set Attribute11" Parameters

Parameter	Value
Attribute names	des dns gate
Attributes from	Dialog Dialog Dialog
Attribute values	2 2 0
Treat vectors as 1-D	1 1 1
Create attributes if not present	on
Number of entities departed, #d	on

3.14.1.1.40. "Set Attribute14" (SetAttribute)

Table 3.241. "Set Attribute14" Parameters

Parameter	Value
Attribute names	node reply gate dns next_des des client
Attributes from	Dialog Dialog Dialog Dialog Dialog Dialog Dialog
Attribute values	1 1 0 1 1 2 3
Treat vectors as 1-D	1 1 1 1 1 1 1
Create attributes if not present	on
Number of entities departed, #d	off

3.14.1.1.41. "Set Attribute15" (SetAttribute)

Table 3.242. "Set Attribute15" Parameters

Parameter	Value
Attribute names	des

Parameter	Value
Attributes from	Signal port
Attribute values	2
Treat vectors as 1-D	1
Create attributes if not present	on
Number of entities departed, #d	off

3.14.1.1.42. "Set Attribute6" (SetAttribute)

Table 3.243. "Set Attribute6" Parameters

Parameter	Value
Attribute names	node reply dns client des gate next_des
Attributes from	Dialog Dialog Dialog Dialog Dialog Dialog Dialog
Attribute values	1 1 2 3 0 0 0
Treat vectors as 1-D	1 1 1 1 1 1 1
Create attributes if not present	on
Number of entities departed, #d	off

3.14.1.1.43. "Start Timer" (StartTimer)

Table 3.244. "Start Timer" Parameters

Parameter	Value
Timer tag	L2C1
If timer has already started	Warn and continue
Number of entities departed, #d	off

3.14.1.1.44. "To Router 1" (PMIOPort)

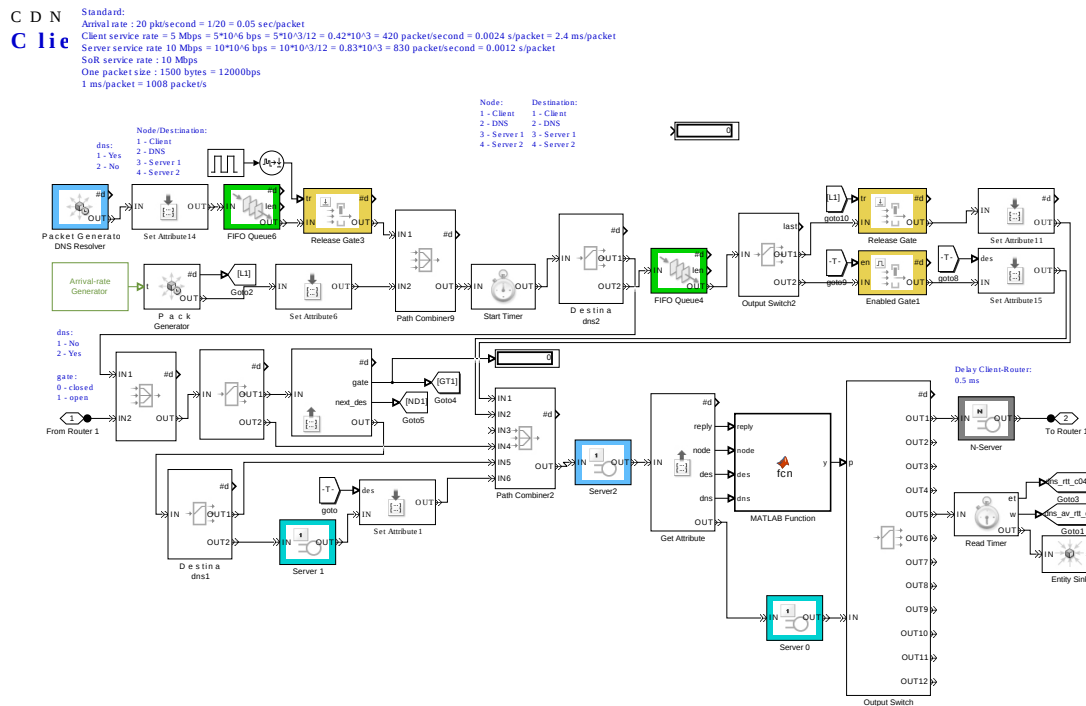
Table 3.245. "To Router 1" Parameters

Parameter	Value
Port number	2

Parameter	Value
Port location on parent subsystem	Right

3.15. Client_4

Figure 3.15. cdnlink_dns/Client/Client_4



3.15.1. Blocks

3.15.1.1. Parameters

3.15.1.1.1. "Destination dns" (OutputSwitch)

Table 3.246. "Destination dns" Parameters

Parameter	Value
Number of entity output ports	2
Switching criterion	From attribute
Initial seed	34567
Attribute name	dns
Specify initial port selection	on

Parameter	Value
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4000
Enable TO port for time-out entities	off
Number of entities departed, #d	on
Number of entities time-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	off

3.15.1.1.2. "Destination dns1" (OutputSwitch)

Table 3.247. "Destination dns1" Parameters

Parameter	Value
Number of entity output ports	2
Switching criterion	From attribute
Initial seed	34567
Attribute name	reply
Specify initial port selection	on
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4000
Enable TO port for time-out entities	off
Number of entities departed, #d	on
Number of entities time-out, #to	off

Parameter	Value
Pending entity present in block, pe	off
Last entity departure port, last	off

3.15.1.1.3. "Destination dns2" (OutputSwitch)

Table 3.248. "Destination dns2" Parameters

Parameter	Value
Number of entity output ports	2
Switching criterion	From attribute
Initial seed	34567
Attribute name	dns
Specify initial port selection	on
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	off

3.15.1.1.4. "Display1" (Display)

Table 3.249. "Display1" Parameters

Parameter	Value
Format	short
Decimation	1

Parameter	Value
Floating display	off

3.15.1.1.5. "Display2" (Display)

Table 3.250. "Display2" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.15.1.1.6. "Enabled Gate1" (EnabledGate)

Table 3.251. "Enabled Gate1" Parameters

Parameter	Value
Resolve simultaneous signal updates according to event priority	off
Event priority	2000
Number of entities departed, #d	on

3.15.1.1.7. "Entity Sink" (EntitySink)

Table 3.252. "Entity Sink" Parameters

Parameter	Value
Input port available for entity arrivals	on
Report number of entities arrived, #a	on

3.15.1.1.8. "FIFO Queue4" (FIFOQueue)

Table 3.253. "FIFO Queue4" Parameters

Parameter	Value
Capacity	2000

Parameter	Value
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities in queue, #n	off
Average wait, w	off
Average queue length, len	on
Number of entities time-d-out, #to	off

3.15.1.1.9. "FIFO Queue6" (FIFOQueue)

Table 3.254. "FIFO Queue6" Parameters

Parameter	Value
Capacity	2000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities in queue, #n	off
Average wait, w	off
Average queue length, len	on
Number of entities time-d-out, #to	off

3.15.1.1.10. "From Router 1" (PMIOPort)

Table 3.255. "From Router 1" Parameters

Parameter	Value
Port number	1
Port location on parent subsystem	Left

3.15.1.1.11. "Get Attribute" (GetAttribute)**Table 3.256. "Get Attribute" Parameters**

Parameter	Value
Attribute names	reply node des dns
If attributes are missing	Error Error Default value Error
Attribute default values	1 1 0 1
Treat vector attributes as 1-D	1 1 1 1
Number of entities departed, #d	on

3.15.1.1.12. "Get Attribute7" (GetAttribute)**Table 3.257. "Get Attribute7" Parameters**

Parameter	Value
Attribute names	gate next_des
If attributes are missing	Error Error
Attribute default values	0 0
Treat vector attributes as 1-D	1 1
Number of entities departed, #d	on

3.15.1.1.13. "goto" (From)**Table 3.258. "goto" Parameters**

Parameter	Value
Goto tag	ND1
Icon display	Tag

3.15.1.1.14. "Goto1" (Goto)**Table 3.259. "Goto1" Parameters**

Parameter	Value
Tag	dns_av_rtt_c04
Icon display	Tag

Parameter	Value
Tag visibility	global

3.15.1.1.15. "goto10" (From)

Table 3.260. "goto10" Parameters

Parameter	Value
Goto tag	L1
Icon display	Signal name

3.15.1.1.16. "Goto2" (Goto)

Table 3.261. "Goto2" Parameters

Parameter	Value
Tag	L1
Icon display	Tag
Tag visibility	local

3.15.1.1.17. "Goto3" (Goto)

Table 3.262. "Goto3" Parameters

Parameter	Value
Tag	dns_rtt_c04
Icon display	Signal name
Tag visibility	global

3.15.1.1.18. "Goto4" (Goto)

Table 3.263. "Goto4" Parameters

Parameter	Value
Tag	GT1
Icon display	Tag
Tag visibility	local

3.15.1.1.19. "Goto5" (Goto)**Table 3.264. "Goto5" Parameters**

Parameter	Value
Tag	ND1
Icon display	Tag
Tag visibility	local

3.15.1.1.20. "goto8" (From)**Table 3.265. "goto8" Parameters**

Parameter	Value
Goto tag	ND1
Icon display	Tag

3.15.1.1.21. "goto9" (From)**Table 3.266. "goto9" Parameters**

Parameter	Value
Goto tag	GT1
Icon display	Tag

3.15.1.1.22. "MATLAB Function" (MATLAB Function)**Table 3.267. MATLAB Function Function Properties**

Property	Value
Update Method	INHERITED
Sample Time	
Support variable-size arrays	1
Saturate on integer overflow	1
Treat these inherited Simulink signal types as fi objects	Fixed-point
Input fi math	fimath(...))
Description	

Table 3.268. MATLAB Function Argument Summary

Name	Scope	Port	Data Type	Size
y	Output	1	double	1
reply	Input	1	double	1
node	Input	2	double	1
des	Input	3	double	1
dns	Input	4	double	1

MATLAB Function Function Script

```
function y = fcn(reply, node, des, dns)
```

```
y = nan;
```

```
%if agent == 1
```

```
if reply == 1
```

```
    y = 1;
```

```
else
```

```
if reply == 2
```

```
    y = 5;
```

```
%    if dns == 1
```

```
%        y = 9;
```

```
%    else
```

```
%        y = 5;
```

```
%    end
```

```
%        end
```

```
%    end
```

```
% else
```

```
% %if agent == 2
```

```
%     if reply == 1
```

```
%         y = 1;
```

```
%     else
```

```
%         if reply == 2
```

```
%             y = 9;
```

```
% %     end
```

```
% %     end
```

```
else
```

```
    y = 12;
```

```
end;
```

```
end;
```

```
% ****
% if agent == 1
%     if reply == 1
%         y = 1;
%     else
%         if reply == 2
%             y = 5;
%         end
%     end
%
% else
% if agent == 2
%     if reply == 1
%         y = 1;
%     else
%         if reply == 2
%             y = 9;
%         end
%     end
%
% else
%     y = 12;
%
% end;
% end;
```

3.15.1.1.23. "N-Server" (NServer)

Table 3.269. "N-Server" Parameters

Parameter	Value
Number of servers	10000
Service time from	Dialog
Service time	0.0005
Attribute name	ServiceTime
Service completion event priority	500
Allow service control	off
Service change upon disabling	Pause
Block entity entry to disabled servers	off
Control event priority	2300
Enable TO port for time-out entities	off

Parameter	Value
Number of entities departed, #d	off
Number of entities in block, #n	off
Pending entity present in block, pe	off
Number of pending entities, #pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-d-out, #to	off
Server occupancy, so	off

3.15.1.1.24. "Output Switch" (OutputSwitch)

Table 3.270. "Output Switch" Parameters

Parameter	Value
Number of entity output ports	12
Switching criterion	From signal port p
Initial seed	34567
Attribute name	cluster
Specify initial port selection	off
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	off

3.15.1.1.25. "Output Switch2" (OutputSwitch)

Table 3.271. "Output Switch2" Parameters

Parameter	Value
Number of entity output ports	2
Switching criterion	First port that is not blocked
Initial seed	34567
Attribute name	switch1
Specify initial port selection	off
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4100
Enable TO port for time-d-out entities	off
Number of entities departed, #d	off
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	on

3.15.1.1.26. "Packet Generator" (TimeBasedEntityGenerator)

Table 3.272. "Packet Generator" Parameters

Parameter	Value
Generate entities upon	Intergeneration time from port t
Distribution	Exponential
Period	0.05
Initial seed	1234
Minimum	0
Maximum	1
Mean	0.05

Parameter	Value
Generation event priority	300
Generate entity at simulation start	on
Response when blocked	Error
Response when unblocked	Immediate restart
Entity type	Standard
Attribute names	
Attributes from	
Attribute values	
Treat vectors as 1-D	
Number of entities departed, #d	on
Pending entity present in block, pe	off
Average intergeneration time, w	off

3.15.1.1.27. "Packet Generator for DNS Resolver" (TimeBasedEntityGenerator)

Table 3.273. "Packet Generator for DNS Resolver" Parameters

Parameter	Value
Generate entities upon	Intergeneration time from dialog
Distribution	Constant
Period	10
Initial seed	6765331
Minimum	0
Maximum	1
Mean	0.05
Generation event priority	300
Generate entity at simulation start	on
Response when blocked	Error
Response when unblocked	Immediate restart
Entity type	Standard
Attribute names	
Attributes from	
Attribute values	

Parameter	Value
Treat vectors as 1-D	
Number of entities departed, #d	on
Pending entity present in block, pe	off
Average intergeneration time, w	off

3.15.1.1.28. "Path Combiner2" (PathCombiner)

Table 3.274. "Path Combiner2" Parameters

Parameter	Value
Number of entity input ports	6
Input port precedence	IN1 port
Initial seed	45675
Resolve simultaneous signal updates according to event priority	off
Event priority	4100
Number of entities departed, #d	on
Last entity arrival port, last	off

3.15.1.1.29. "Path Combiner8" (PathCombiner)

Table 3.275. "Path Combiner8" Parameters

Parameter	Value
Number of entity input ports	2
Input port precedence	IN1 port
Initial seed	45675
Resolve simultaneous signal updates according to event priority	off
Event priority	4100
Number of entities departed, #d	on
Last entity arrival port, last	off

3.15.1.1.30. "Path Combiner9" (PathCombiner)**Table 3.276. "Path Combiner9" Parameters**

Parameter	Value
Number of entity input ports	2
Input port precedence	IN1 port
Initial seed	45675
Resolve simultaneous signal updates according to event priority	off
Event priority	4100
Number of entities departed, #d	on
Last entity arrival port, last	off

3.15.1.1.31. "Pulse Generator1" (DiscretePulseGenerator)**Table 3.277. "Pulse Generator1" Parameters**

Parameter	Value
Pulse type	Time based
Time (t)	Use simulation time
Amplitude	1
Period (secs)	20
Pulse Width (% of period)	5
Phase delay (secs)	0
Sample time	1
Interpret vector parameters as 1-D	on

3.15.1.1.32. "Read Timer" (ReadTimer)**Table 3.278. "Read Timer" Parameters**

Parameter	Value
Timer tag	L2C1
If entity does not have tagged timer	Error

Parameter	Value
Number of entities departed, #d	off
Number of entities departed with specified tag, #t	off
Elapsed time, et	on
Average elapsed time, w	on

3.15.1.1.33. "Release Gate" (ReleaseGate)

Table 3.279. "Release Gate" Parameters

Parameter	Value
Open gate upon	Trigger from port tr
Trigger type	Rising
Resolve simultaneous signal updates according to event priority	off
Event priority	2200
Number of entities departed, #d	on

3.15.1.1.34. "Release Gate3" (ReleaseGate)

Table 3.280. "Release Gate3" Parameters

Parameter	Value
Open gate upon	Trigger from port tr
Trigger type	Rising
Resolve simultaneous signal updates according to event priority	off
Event priority	2200
Number of entities departed, #d	on

3.15.1.1.35. "Server 0" (SingleServer)

Table 3.281. "Server 0" Parameters

Parameter	Value
Service time from	Dialog

Parameter	Value
Service time	0
Attribute name	ServiceTimeDNS
Service completion event priority	500
Permit preemption based on attribute	off
Sorting attribute name	PriorityAttributeName
Sorting direction	Ascending
Write residual service time to attribute	off
Residual service time attribute name	ResidualServiceTime
Create attribute if not present	on
Enable TO port for time-d-out entities	off
Number of entities departed, #d	off
Number of entities in block, #n	off
Number of entities preempted, #p	off
Pending entity present in block, pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-d-out, #to	off

3.15.1.1.36. "Server 1" (SingleServer)

Table 3.282. "Server 1" Parameters

Parameter	Value
Service time from	Dialog
Service time	0
Attribute name	ServiceTimeDNS
Service completion event priority	500
Permit preemption based on attribute	off
Sorting attribute name	PriorityAttributeName

Parameter	Value
Sorting direction	Ascending
Write residual service time to attribute	off
Residual service time attribute name	ResidualServiceTime
Create attribute if not present	on
Enable TO port for time-out entities	off
Number of entities departed, #d	off
Number of entities in block, #n	off
Number of entities preempted, #p	off
Pending entity present in block, pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-out, #to	off

3.15.1.1.37. "Server2" (SingleServer)

Table 3.283. "Server2" Parameters

Parameter	Value
Service time from	Dialog
Service time	0
Attribute name	ServiceTimeClient
Service completion event priority	500
Permit preemption based on attribute	off
Sorting attribute name	PriorityAttributeName
Sorting direction	Ascending
Write residual service time to attribute	off
Residual service time attribute name	ResidualServiceTime
Create attribute if not present	on

Parameter	Value
Enable TO port for time-out entities	off
Number of entities departed, #d	off
Number of entities in block, #n	off
Number of entities preempted, #p	off
Pending entity present in block, pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-out, #to	off

3.15.1.1.38. "Set Attribute1" (SetAttribute)

Table 3.284. "Set Attribute1" Parameters

Parameter	Value
Attribute names	node reply dns client des
Attributes from	Dialog Dialog Dialog Dialog Signal port
Attribute values	1 1 2 4 1
Treat vectors as 1-D	1 1 1 1 1
Create attributes if not present	on
Number of entities departed, #d	off

3.15.1.1.39. "Set Attribute11" (SetAttribute)

Table 3.285. "Set Attribute11" Parameters

Parameter	Value
Attribute names	des dns gate
Attributes from	Dialog Dialog Dialog
Attribute values	2 2 0
Treat vectors as 1-D	1 1 1
Create attributes if not present	on
Number of entities departed, #d	on

3.15.1.1.40. "Set Attribute14" (SetAttribute)**Table 3.286. "Set Attribute14" Parameters**

Parameter	Value
Attribute names	node reply gate dns next_des des client
Attributes from	Dialog Dialog Dialog Dialog Dialog Dialog Dialog
Attribute values	1 1 0 1 1 2 4
Treat vectors as 1-D	1 1 1 1 1 1 1
Create attributes if not present	on
Number of entities departed, #d	off

3.15.1.1.41. "Set Attribute15" (SetAttribute)**Table 3.287. "Set Attribute15" Parameters**

Parameter	Value
Attribute names	des
Attributes from	Signal port
Attribute values	2
Treat vectors as 1-D	1
Create attributes if not present	on
Number of entities departed, #d	off

3.15.1.1.42. "Set Attribute6" (SetAttribute)**Table 3.288. "Set Attribute6" Parameters**

Parameter	Value
Attribute names	node reply dns client des gate next_des
Attributes from	Dialog Dialog Dialog Dialog Dialog Dialog Dialog
Attribute values	1 1 2 4 0 0 0
Treat vectors as 1-D	1 1 1 1 1 1 1
Create attributes if not present	on
Number of entities departed, #d	off

3.15.1.1.43. "Start Timer" (StartTimer)

Table 3.289. "Start Timer" Parameters

Parameter	Value
Timer tag	L2C1
If timer has already started	Warn and continue
Number of entities departed, #d	off

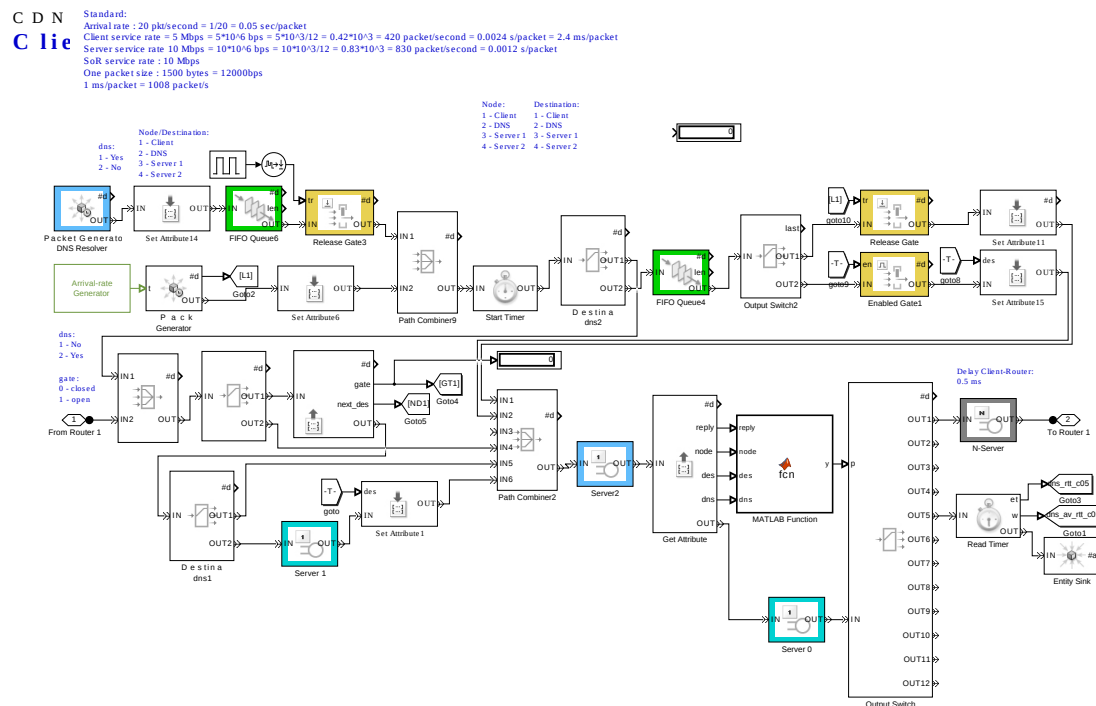
3.15.1.1.44. "To Router 1" (PMIOPort)

Table 3.290. "To Router 1" Parameters

Parameter	Value
Port number	2
Port location on parent subsystem	Right

3.16. Client_5

Figure 3.16. cdnlink_dns/Client/Client_5



3.16.1. Blocks

3.16.1.1. Parameters

3.16.1.1.1. "Destination dns" (OutputSwitch)

Table 3.291. "Destination dns" Parameters

Parameter	Value
Number of entity output ports	2
Switching criterion	From attribute
Initial seed	34567
Attribute name	dns
Specify initial port selection	on
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	off

3.16.1.1.2. "Destination dns1" (OutputSwitch)

Table 3.292. "Destination dns1" Parameters

Parameter	Value
Number of entity output ports	2
Switching criterion	From attribute
Initial seed	34567

Parameter	Value
Attribute name	reply
Specify initial port selection	on
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	off

3.16.1.1.3. "Destination dns2" (OutputSwitch)

Table 3.293. "Destination dns2" Parameters

Parameter	Value
Number of entity output ports	2
Switching criterion	From attribute
Initial seed	34567
Attribute name	dns
Specify initial port selection	on
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4000
Enable TO port for time-d-out entities	off

Parameter	Value
Number of entities departed, #d	on
Number of entities time-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	off

3.16.1.1.4. "Display1" (Display)

Table 3.294. "Display1" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.16.1.1.5. "Display2" (Display)

Table 3.295. "Display2" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.16.1.1.6. "Enabled Gate1" (EnabledGate)

Table 3.296. "Enabled Gate1" Parameters

Parameter	Value
Resolve simultaneous signal updates according to event priority	off
Event priority	2000
Number of entities departed, #d	on

3.16.1.1.7. "Entity Sink" (EntitySink)**Table 3.297. "Entity Sink" Parameters**

Parameter	Value
Input port available for entity arrivals	on
Report number of entities arrived, #a	on

3.16.1.1.8. "FIFO Queue4" (FIFOQueue)**Table 3.298. "FIFO Queue4" Parameters**

Parameter	Value
Capacity	2000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities in queue, #n	off
Average wait, w	off
Average queue length, len	on
Number of entities time-d-out, #to	off

3.16.1.1.9. "FIFO Queue6" (FIFOQueue)**Table 3.299. "FIFO Queue6" Parameters**

Parameter	Value
Capacity	2000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities in queue, #n	off
Average wait, w	off
Average queue length, len	on
Number of entities time-d-out, #to	off

3.16.1.1.10. "From Router 1" (PMIOPort)**Table 3.300. "From Router 1" Parameters**

Parameter	Value
Port number	1
Port location on parent subsystem	Left

3.16.1.1.11. "Get Attribute" (GetAttribute)**Table 3.301. "Get Attribute" Parameters**

Parameter	Value
Attribute names	reply node des dns
If attributes are missing	Error Error Default value Error
Attribute default values	1 1 0 1
Treat vector attributes as 1-D	1 1 1 1
Number of entities departed, #d	on

3.16.1.1.12. "Get Attribute7" (GetAttribute)**Table 3.302. "Get Attribute7" Parameters**

Parameter	Value
Attribute names	gate next_des
If attributes are missing	Error Error
Attribute default values	0 0
Treat vector attributes as 1-D	1 1
Number of entities departed, #d	on

3.16.1.1.13. "goto" (From)**Table 3.303. "goto" Parameters**

Parameter	Value
Goto tag	ND1
Icon display	Tag

3.16.1.1.14. "Goto1" (Goto)**Table 3.304. "Goto1" Parameters**

Parameter	Value
Tag	dns_av_rtt_c05
Icon display	Tag
Tag visibility	global

3.16.1.1.15. "goto10" (From)**Table 3.305. "goto10" Parameters**

Parameter	Value
Goto tag	L1
Icon display	Signal name

3.16.1.1.16. "Goto2" (Goto)**Table 3.306. "Goto2" Parameters**

Parameter	Value
Tag	L1
Icon display	Tag
Tag visibility	local

3.16.1.1.17. "Goto3" (Goto)**Table 3.307. "Goto3" Parameters**

Parameter	Value
Tag	dns_rtt_c05
Icon display	Signal name
Tag visibility	global

3.16.1.1.18. "Goto4" (Goto)**Table 3.308. "Goto4" Parameters**

Parameter	Value
Tag	GT1

Parameter	Value
Icon display	Tag
Tag visibility	local

3.16.1.1.19. "Goto5" (Goto)

Table 3.309. "Goto5" Parameters

Parameter	Value
Tag	ND1
Icon display	Tag
Tag visibility	local

3.16.1.1.20. "goto8" (From)

Table 3.310. "goto8" Parameters

Parameter	Value
Goto tag	ND1
Icon display	Tag

3.16.1.1.21. "goto9" (From)

Table 3.311. "goto9" Parameters

Parameter	Value
Goto tag	GT1
Icon display	Tag

3.16.1.1.22. "MATLAB Function" (MATLAB Function)

Table 3.312. MATLAB Function Function Properties

Property	Value
Update Method	INHERITED
Sample Time	
Support variable-size arrays	1
Saturate on integer overflow	1
Treat these inherited Simulink signal types as fi objects	Fixed-point

Property	Value
Input fi math	fimath(...)
Description	

Table 3.313. MATLAB Function Argument Summary

Name	Scope	Port	Data Type	Size
y	Output	1	double	1
reply	Input	1	double	1
node	Input	2	double	1
des	Input	3	double	1
dns	Input	4	double	1

MATLAB Function Function Script

```
function y = fcn(reply, node, des, dns)
```

```
y = nan;
```

```
%if agent == 1
```

```
if reply == 1
```

```
    y = 1;
```

```
else
```

```
if reply == 2
```

```
    y = 5;
```

```
%    if dns == 1
```

```
%        y = 9;
```

```
%    else
```

```
%        y = 5;
```

```
%    end
```

```
%    end
```

```
%    end
```

```
% else
```

```
% %if agent == 2
```

```
%     if reply == 1
```

```
%         y = 1;
```

```
%     else
```

```
%         if reply == 2
```

```
%             y = 9;
```

```
% %     end
```

```
% %     end
```

```
else
```

```
    y = 12;
```

```
end;
```

```
end;
```

```
% ****
% if agent == 1
%     if reply == 1
%         y = 1;
%     else
%         if reply == 2
%             y = 5;
%         end
%     end
%
% else
% if agent == 2
%     if reply == 1
%         y = 1;
%     else
%         if reply == 2
%             y = 9;
%         end
%     end
%
% else
%     y = 12;
%
% end;
% end;
```

3.16.1.1.23. "N-Server" (NServer)

Table 3.314. "N-Server" Parameters

Parameter	Value
Number of servers	10000
Service time from	Dialog
Service time	0.0005
Attribute name	ServiceTime
Service completion event priority	500
Allow service control	off
Service change upon dis- abling	Pause

Parameter	Value
Block entity entry to disabled servers	off
Control event priority	2300
Enable TO port for time-d-out entities	off
Number of entities departed, #d	off
Number of entities in block, #n	off
Pending entity present in block, pe	off
Number of pending entities, #pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-d-out, #to	off
Server occupancy, so	off

3.16.1.1.24. "Output Switch" (OutputSwitch)

Table 3.315. "Output Switch" Parameters

Parameter	Value
Number of entity output ports	12
Switching criterion	From signal port p
Initial seed	34567
Attribute name	cluster
Specify initial port selection	off
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on

Parameter	Value
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	off

3.16.1.1.25. "Output Switch2" (OutputSwitch)

Table 3.316. "Output Switch2" Parameters

Parameter	Value
Number of entity output ports	2
Switching criterion	First port that is not blocked
Initial seed	34567
Attribute name	switch1
Specify initial port selection	off
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4100
Enable TO port for time-d-out entities	off
Number of entities departed, #d	off
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	on

3.16.1.1.26. "Packet Generator" (TimeBasedEntityGenerator)

Table 3.317. "Packet Generator" Parameters

Parameter	Value
Generate entities upon	Intergeneration time from port t

Parameter	Value
Distribution	Exponential
Period	0.05
Initial seed	1234
Minimum	0
Maximum	1
Mean	0.05
Generation event priority	300
Generate entity at simulation start	on
Response when blocked	Error
Response when unblocked	Immediate restart
Entity type	Standard
Attribute names	
Attributes from	
Attribute values	
Treat vectors as 1-D	
Number of entities departed, #d	on
Pending entity present in block, pe	off
Average intergeneration time, w	off

3.16.1.1.27. "Packet Generator for DNS Resolver" (TimeBasedEntityGenerator)

Table 3.318. "Packet Generator for DNS Resolver" Parameters

Parameter	Value
Generate entities upon	Intergeneration time from dialog
Distribution	Constant
Period	10
Initial seed	6765331
Minimum	0
Maximum	1
Mean	0.05
Generation event priority	300
Generate entity at simulation start	on
Response when blocked	Error

Parameter	Value
Response when unblocked	Immediate restart
Entity type	Standard
Attribute names	
Attributes from	
Attribute values	
Treat vectors as 1-D	
Number of entities departed, #d	on
Pending entity present in block, pe	off
Average intergeneration time, w	off

3.16.1.1.28. "Path Combiner2" (PathCombiner)

Table 3.319. "Path Combiner2" Parameters

Parameter	Value
Number of entity input ports	6
Input port precedence	IN1 port
Initial seed	45675
Resolve simultaneous signal updates according to event priority	off
Event priority	4100
Number of entities departed, #d	on
Last entity arrival port, last	off

3.16.1.1.29. "Path Combiner8" (PathCombiner)

Table 3.320. "Path Combiner8" Parameters

Parameter	Value
Number of entity input ports	2
Input port precedence	IN1 port
Initial seed	45675

Parameter	Value
Resolve simultaneous signal updates according to event priority	off
Event priority	4100
Number of entities departed, #d	on
Last entity arrival port, last	off

3.16.1.1.30. "Path Combiner9" (PathCombiner)

Table 3.321. "Path Combiner9" Parameters

Parameter	Value
Number of entity input ports	2
Input port precedence	IN1 port
Initial seed	45675
Resolve simultaneous signal updates according to event priority	off
Event priority	4100
Number of entities departed, #d	on
Last entity arrival port, last	off

3.16.1.1.31. "Pulse Generator1" (DiscretePulseGenerator)

Table 3.322. "Pulse Generator1" Parameters

Parameter	Value
Pulse type	Time based
Time (t)	Use simulation time
Amplitude	1
Period (secs)	20
Pulse Width (% of period)	5
Phase delay (secs)	0
Sample time	1
Interpret vector parameters as 1-D	on

3.16.1.1.32. "Read Timer" (ReadTimer)**Table 3.323. "Read Timer" Parameters**

Parameter	Value
Timer tag	L2C1
If entity does not have tagged timer	Error
Number of entities departed, #d	off
Number of entities departed with specified tag, #t	off
Elapsed time, et	on
Average elapsed time, w	on

3.16.1.1.33. "Release Gate" (ReleaseGate)**Table 3.324. "Release Gate" Parameters**

Parameter	Value
Open gate upon	Trigger from port tr
Trigger type	Rising
Resolve simultaneous signal updates according to event priority	off
Event priority	2200
Number of entities departed, #d	on

3.16.1.1.34. "Release Gate3" (ReleaseGate)**Table 3.325. "Release Gate3" Parameters**

Parameter	Value
Open gate upon	Trigger from port tr
Trigger type	Rising
Resolve simultaneous signal updates according to event priority	off
Event priority	2200
Number of entities departed, #d	on

3.16.1.1.35. "Server 0" (SingleServer)**Table 3.326. "Server 0" Parameters**

Parameter	Value
Service time from	Dialog
Service time	0
Attribute name	ServiceTimeDNS
Service completion event priority	500
Permit preemption based on attribute	off
Sorting attribute name	PriorityAttributeName
Sorting direction	Ascending
Write residual service time to attribute	off
Residual service time attribute name	ResidualServiceTime
Create attribute if not present	on
Enable TO port for time-d-out entities	off
Number of entities departed, #d	off
Number of entities in block, #n	off
Number of entities preempted, #p	off
Pending entity present in block, pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-d-out, #to	off

3.16.1.1.36. "Server 1" (SingleServer)**Table 3.327. "Server 1" Parameters**

Parameter	Value
Service time from	Dialog
Service time	0

Parameter	Value
Attribute name	ServiceTimeDNS
Service completion event priority	500
Permit preemption based on attribute	off
Sorting attribute name	PriorityAttributeName
Sorting direction	Ascending
Write residual service time to attribute	off
Residual service time attribute name	ResidualServiceTime
Create attribute if not present	on
Enable TO port for time-d-out entities	off
Number of entities departed, #d	off
Number of entities in block, #n	off
Number of entities preempted, #p	off
Pending entity present in block, pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-d-out, #to	off

3.16.1.1.37. "Server2" (SingleServer)

Table 3.328. "Server2" Parameters

Parameter	Value
Service time from	Dialog
Service time	0
Attribute name	ServiceTimeClient
Service completion event priority	500
Permit preemption based on attribute	off
Sorting attribute name	PriorityAttributeName
Sorting direction	Ascending

Parameter	Value
Write residual service time to attribute	off
Residual service time attribute name	ResidualServiceTime
Create attribute if not present	on
Enable TO port for time-d-out entities	off
Number of entities departed, #d	off
Number of entities in block, #n	off
Number of entities preempted, #p	off
Pending entity present in block, pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-d-out, #to	off

3.16.1.1.38. "Set Attribute1" (SetAttribute)

Table 3.329. "Set Attribute1" Parameters

Parameter	Value
Attribute names	node reply dns client des
Attributes from	Dialog Dialog Dialog Dialog Signal port
Attribute values	1 1 2 5 1
Treat vectors as 1-D	1 1 1 1 1
Create attributes if not present	on
Number of entities departed, #d	off

3.16.1.1.39. "Set Attribute11" (SetAttribute)

Table 3.330. "Set Attribute11" Parameters

Parameter	Value
Attribute names	des dns gate
Attributes from	Dialog Dialog Dialog

Parameter	Value
Attribute values	2 2 0
Treat vectors as 1-D	1 1 1
Create attributes if not present	on
Number of entities departed, #d	on

3.16.1.1.40. "Set Attribute14" (SetAttribute)

Table 3.331. "Set Attribute14" Parameters

Parameter	Value
Attribute names	node reply gate dns next_des des client
Attributes from	Dialog Dialog Dialog Dialog Dialog Dialog Dialog
Attribute values	1 1 0 1 1 2 5
Treat vectors as 1-D	1 1 1 1 1 1 1
Create attributes if not present	on
Number of entities departed, #d	off

3.16.1.1.41. "Set Attribute15" (SetAttribute)

Table 3.332. "Set Attribute15" Parameters

Parameter	Value
Attribute names	des
Attributes from	Signal port
Attribute values	2
Treat vectors as 1-D	1
Create attributes if not present	on
Number of entities departed, #d	off

3.16.1.1.42. "Set Attribute6" (SetAttribute)

Table 3.333. "Set Attribute6" Parameters

Parameter	Value
Attribute names	node reply dns client des gate next_des

Parameter	Value
Attributes from	Dialog Dialog Dialog Dialog Dialog Dialog Dialog
Attribute values	1 1 2 5 0 0 0
Treat vectors as 1-D	1 1 1 1 1 1 1
Create attributes if not present	on
Number of entities departed, #d	off

3.16.1.1.43. "Start Timer" (StartTimer)

Table 3.334. "Start Timer" Parameters

Parameter	Value
Timer tag	L2C1
If timer has already started	Warn and continue
Number of entities departed, #d	off

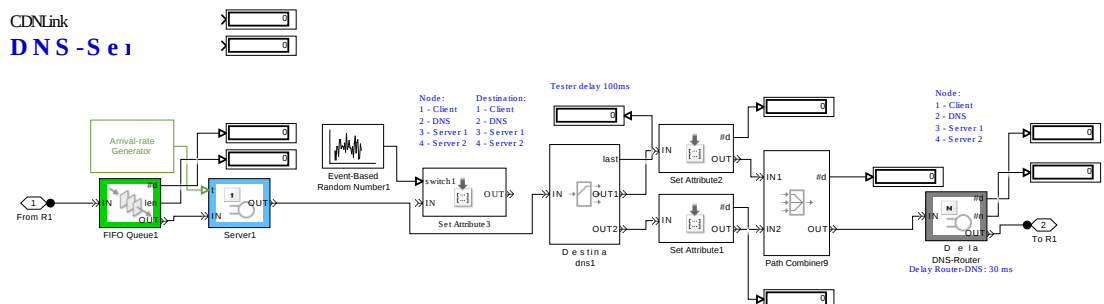
3.16.1.1.44. "To Router 1" (PMIOPort)

Table 3.335. "To Router 1" Parameters

Parameter	Value
Port number	2
Port location on parent subsystem	Right

3.17. DNS_Server_1

Figure 3.17. cdnlink_dns/DNS_Server_1



3.17.1. Blocks

3.17.1.1. Parameters

3.17.1.1.1. "Delay DNS-Router" (NServer)

Table 3.336. "Delay DNS-Router" Parameters

Parameter	Value
Number of servers	inf
Service time from	Dialog
Service time	0.030
Attribute name	ServiceTime
Service completion event priority	500
Allow service control	off
Service change upon disabling	Pause
Block entity entry to disabled servers	off
Control event priority	2300
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities in block, #n	on
Pending entity present in block, pe	off
Number of pending entities, #pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-d-out, #to	off
Server occupancy, so	off

3.17.1.1.2. "Destination dns1" (OutputSwitch)

Table 3.337. "Destination dns1" Parameters

Parameter	Value
Number of entity output ports	2

Parameter	Value
Switching criterion	Equiprobable
Initial seed	34567
Attribute name	switch1
Specify initial port selection	on
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	off
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	on

3.17.1.1.3. "Display1" (Display)

Table 3.338. "Display1" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.17.1.1.4. "Display2" (Display)

Table 3.339. "Display2" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.17.1.1.5. "Display28" (Display)**Table 3.340. "Display28" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.17.1.1.6. "Display3" (Display)**Table 3.341. "Display3" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.17.1.1.7. "Display4" (Display)**Table 3.342. "Display4" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.17.1.1.8. "Display5" (Display)**Table 3.343. "Display5" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.17.1.1.9. "Display6" (Display)**Table 3.344. "Display6" Parameters**

Parameter	Value
Format	short

Parameter	Value
Decimation	1
Floating display	off

3.17.1.1.10. "Display7" (Display)

Table 3.345. "Display7" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.17.1.1.11. "Display8" (Display)

Table 3.346. "Display8" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.17.1.1.12. "Display9" (Display)

Table 3.347. "Display9" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.17.1.1.13. "Event-Based Random Number1" (EventBasedRandomNumber)

Table 3.348. "Event-Based Random Number1" Parameters

Parameter	Value
Distribution	Arbitrary discrete
Mean	1
Minimum	0

Parameter	Value
Maximum	1
Probability for output to be 1	0.25
Probability of success in a single trial	0.5
Number of trials	1
Minimum	1
Maximum	3
Mode	2
Threshold	0
Scale	1
Shape	1
Mean	0
Standard deviation	1
Probability of success in a single trial	0.5
Mean	1
Threshold	0
Mu	1
Sigma	1
Threshold	0
Scale	1
Minimum	0
Maximum	1
Shape parameter a	1
Shape parameter b	1
Minimum	0
Maximum	1
Number of values	2
Threshold	0
Scale	1
Shape	1
Value vector	[0 1]
Cumulative probability function vector	[0 1]
Value vector	[1 2]
Probability vector	[0.5 0.5]
Initial seed	12345

3.17.1.1.14. "FIFO Queue1" (FIFOQueue)**Table 3.349. "FIFO Queue1" Parameters**

Parameter	Value
Capacity	2000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities in queue, #n	off
Average wait, w	off
Average queue length, len	on
Number of entities time-d-out, #to	off

3.17.1.1.15. "From R1" (PMIOPort)**Table 3.350. "From R1" Parameters**

Parameter	Value
Port number	1
Port location on parent subsystem	Left

3.17.1.1.16. "Path Combiner9" (PathCombiner)**Table 3.351. "Path Combiner9" Parameters**

Parameter	Value
Number of entity input ports	2
Input port precedence	IN1 port
Initial seed	45675
Resolve simultaneous signal updates according to event priority	off
Event priority	4100
Number of entities departed, #d	on
Last entity arrival port, last	off

3.17.1.1.17. "Server1" (SingleServer)**Table 3.352. "Server1" Parameters**

Parameter	Value
Service time from	Signal port t
Service time	0.0006
Attribute name	ServiceTimeRDC1
Service completion event priority	500
Permit preemption based on attribute	off
Sorting attribute name	PriorityAttributeName
Sorting direction	Ascending
Write residual service time to attribute	off
Residual service time attribute name	ResidualServiceTime
Create attribute if not present	on
Enable TO port for time-out entities	off
Number of entities departed, #d	off
Number of entities in block, #n	off
Number of entities preempted, #p	off
Pending entity present in block, pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-out, #to	off

3.17.1.1.18. "Set Attribute1" (SetAttribute)**Table 3.353. "Set Attribute1" Parameters**

Parameter	Value
Attribute names	reply des node next_des gate dns
Attributes from	Dialog Dialog Dialog Dialog Dialog Dialog

Parameter	Value
Attribute values	2 1 2 4 1 1
Treat vectors as 1-D	1 1 1 1 1 1
Create attributes if not present	on
Number of entities departed, #d	on

3.17.1.1.19. "Set Attribute2" (SetAttribute)

Table 3.354. "Set Attribute2" Parameters

Parameter	Value
Attribute names	reply des node next_des gate dns
Attributes from	Dialog Dialog Dialog Dialog Dialog Dialog
Attribute values	2 1 2 3 1 1
Treat vectors as 1-D	1 1 1 1 1 1
Create attributes if not present	on
Number of entities departed, #d	on

3.17.1.1.20. "Set Attribute3" (SetAttribute)

Table 3.355. "Set Attribute3" Parameters

Parameter	Value
Attribute names	switch1
Attributes from	Signal port
Attribute values	1
Treat vectors as 1-D	1
Create attributes if not present	on
Number of entities departed, #d	off

3.17.1.1.21. "To R1" (PMIOPort)

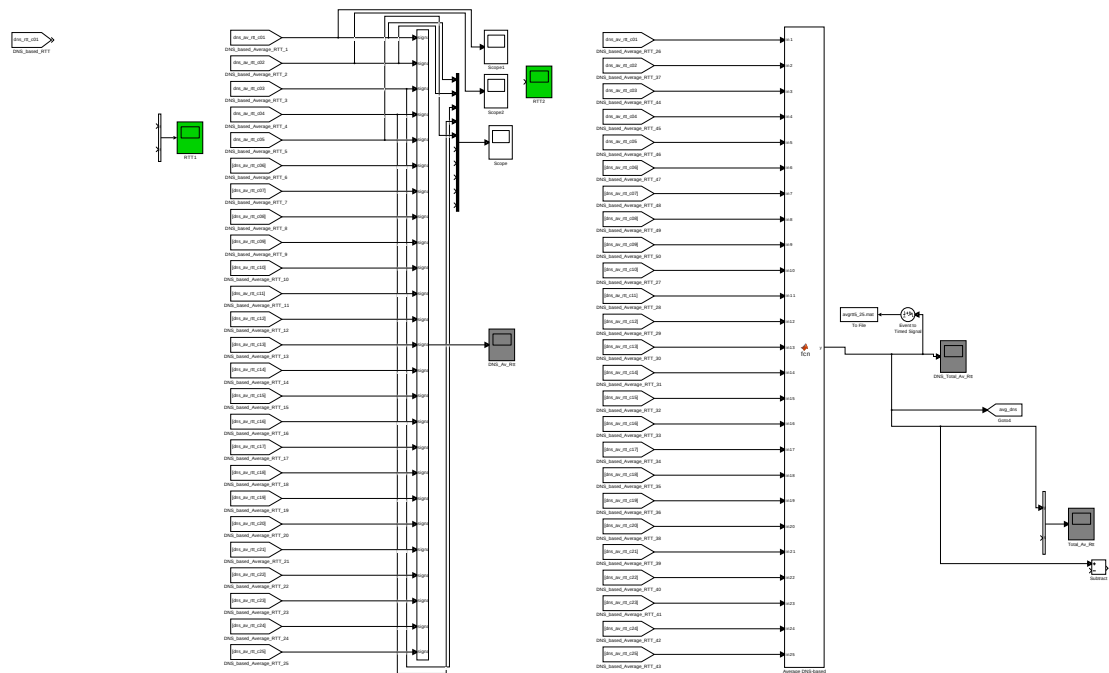
Table 3.356. "To R1" Parameters

Parameter	Value
Port number	2

Parameter	Value
Port location on parent subsystem	Left

3.18. Response_Time

Figure 3.18. cdnlink_dns/background/Response_Time



3.18.1. Blocks

3.18.1.1. Parameters

3.18.1.1.1. "Average DNS-based" (MATLAB Function)

Table 3.357. Average DNS-based Function Properties

Property	Value
Update Method	INHERITED
Sample Time	
Support variable-size arrays	1
Saturate on integer overflow	1
Treat these inherited Simulink signal types as fi objects	Fixed-point

Property	Value
Input fi math	fimath(...)
Description	

Table 3.358. Average DNS-based Argument Summary

Name	Scope	Port	Data Type	Size
in1	Input	1	double	1
y	Output	1	double	1
in2	Input	2	double	1
in3	Input	3	double	1
in4	Input	4	double	1
in5	Input	5	double	1
in6	Input	6	double	1
in7	Input	7	double	1
in8	Input	8	double	1
in9	Input	9	double	1
in10	Input	10	double	1
in11	Input	11	double	1
in12	Input	12	double	1
in13	Input	13	double	1
in14	Input	14	double	1
in15	Input	15	double	1
in16	Input	16	double	1
in17	Input	17	double	1
in18	Input	18	double	1
in19	Input	19	double	1
in20	Input	20	double	1
in21	Input	21	double	1
in22	Input	22	double	1
in23	Input	23	double	1
in24	Input	24	double	1
in25	Input	25	double	1

Average DNS-based Function Script

```
function y = fcn(in1,in2,in3,in4,in5, ...
                in6,in7,in8,in9,in10, ...
                in11,in12,in13,in14,in15, ...
                in16,in17,in18,in19,in20, ...
                in21,in22,in23,in24,in25)
```

```
##codegen
```

```
y = (in1+in2+in3+in4+in5+ ...
      in6+in7+in8+in9+in10+ ...
      in11+in12+in13+in14+in15+ ...
      in16+in17+in18+in19+in20+ ...
      in21+in22+in23+in24+in25)/5;
```

Table 3.359. Average DNS-based Supporting Functions

Function	Defined By	Path
coder.internal.assert	MATLAB	
coder.internal.div	MATLAB	
coder.internal.isBuiltInNumeric	MATLAB	
mrdivide	MATLAB	
rdivide	MATLAB	

3.18.1.1.2. "DNS_based_Average_RTT_1" (From)**Table 3.360. "DNS_based_Average_RTT_1" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c01
Icon display	Signal name

3.18.1.1.3. "DNS_based_Average_RTT_10" (From)**Table 3.361. "DNS_based_Average_RTT_10" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c10
Icon display	Signal name

3.18.1.1.4. "DNS_based_Average_RTT_11" (From)**Table 3.362. "DNS_based_Average_RTT_11" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c11
Icon display	Signal name

3.18.1.1.5. "DNS_based_Average_RTT_12" (From)**Table 3.363. "DNS_based_Average_RTT_12" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c12
Icon display	Signal name

3.18.1.1.6. "DNS_based_Average_RTT_13" (From)**Table 3.364. "DNS_based_Average_RTT_13" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c13
Icon display	Signal name

3.18.1.1.7. "DNS_based_Average_RTT_14" (From)**Table 3.365. "DNS_based_Average_RTT_14" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c14
Icon display	Signal name

3.18.1.1.8. "DNS_based_Average_RTT_15" (From)**Table 3.366. "DNS_based_Average_RTT_15" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c15
Icon display	Signal name

3.18.1.1.9. "DNS_based_Average_RTT_16" (From)**Table 3.367. "DNS_based_Average_RTT_16" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c16
Icon display	Signal name

3.18.1.1.10. "DNS_based_Average_RTT_17" (From)**Table 3.368. "DNS_based_Average_RTT_17" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c17
Icon display	Signal name

3.18.1.1.11. "DNS_based_Average_RTT_18" (From)**Table 3.369. "DNS_based_Average_RTT_18" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c18
Icon display	Signal name

3.18.1.1.12. "DNS_based_Average_RTT_19" (From)**Table 3.370. "DNS_based_Average_RTT_19" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c19
Icon display	Signal name

3.18.1.1.13. "DNS_based_Average_RTT_2" (From)**Table 3.371. "DNS_based_Average_RTT_2" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c02
Icon display	Signal name

3.18.1.1.14. "DNS_based_Average_RTT_20" (From)**Table 3.372. "DNS_based_Average_RTT_20" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c20
Icon display	Signal name

3.18.1.1.15. "DNS_based_Average_RTT_21" (From)**Table 3.373. "DNS_based_Average_RTT_21" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c21
Icon display	Signal name

3.18.1.1.16. "DNS_based_Average_RTT_22" (From)**Table 3.374. "DNS_based_Average_RTT_22" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c22
Icon display	Signal name

3.18.1.1.17. "DNS_based_Average_RTT_23" (From)**Table 3.375. "DNS_based_Average_RTT_23" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c23
Icon display	Signal name

3.18.1.1.18. "DNS_based_Average_RTT_24" (From)**Table 3.376. "DNS_based_Average_RTT_24" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c24
Icon display	Signal name

3.18.1.1.19. "DNS_based_Average_RTT_25" (From)**Table 3.377. "DNS_based_Average_RTT_25" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c25
Icon display	Signal name

3.18.1.1.20. "DNS_based_Average_RTT_26" (From)**Table 3.378. "DNS_based_Average_RTT_26" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c01
Icon display	Signal name

3.18.1.1.21. "DNS_based_Average_RTT_27" (From)**Table 3.379. "DNS_based_Average_RTT_27" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c10
Icon display	Signal name

3.18.1.1.22. "DNS_based_Average_RTT_28" (From)**Table 3.380. "DNS_based_Average_RTT_28" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c11
Icon display	Signal name

3.18.1.1.23. "DNS_based_Average_RTT_29" (From)**Table 3.381. "DNS_based_Average_RTT_29" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c12
Icon display	Signal name

3.18.1.1.24. "DNS_based_Average_RTT_3" (From)**Table 3.382. "DNS_based_Average_RTT_3" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c03
Icon display	Signal name

3.18.1.1.25. "DNS_based_Average_RTT_30" (From)**Table 3.383. "DNS_based_Average_RTT_30" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c13
Icon display	Signal name

3.18.1.1.26. "DNS_based_Average_RTT_31" (From)**Table 3.384. "DNS_based_Average_RTT_31" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c14
Icon display	Signal name

3.18.1.1.27. "DNS_based_Average_RTT_32" (From)**Table 3.385. "DNS_based_Average_RTT_32" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c15
Icon display	Signal name

3.18.1.1.28. "DNS_based_Average_RTT_33" (From)**Table 3.386. "DNS_based_Average_RTT_33" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c16
Icon display	Signal name

3.18.1.1.29. "DNS_based_Average_RTT_34" (From)**Table 3.387. "DNS_based_Average_RTT_34" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c17
Icon display	Signal name

3.18.1.1.30. "DNS_based_Average_RTT_35" (From)**Table 3.388. "DNS_based_Average_RTT_35" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c18
Icon display	Signal name

3.18.1.1.31. "DNS_based_Average_RTT_36" (From)**Table 3.389. "DNS_based_Average_RTT_36" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c19
Icon display	Signal name

3.18.1.1.32. "DNS_based_Average_RTT_37" (From)**Table 3.390. "DNS_based_Average_RTT_37" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c02
Icon display	Signal name

3.18.1.1.33. "DNS_based_Average_RTT_38" (From)**Table 3.391. "DNS_based_Average_RTT_38" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c20
Icon display	Signal name

3.18.1.1.34. "DNS_based_Average_RTT_39" (From)**Table 3.392. "DNS_based_Average_RTT_39" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c21
Icon display	Signal name

3.18.1.1.35. "DNS_based_Average_RTT_4" (From)**Table 3.393. "DNS_based_Average_RTT_4" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c04
Icon display	Signal name

3.18.1.1.36. "DNS_based_Average_RTT_40" (From)**Table 3.394. "DNS_based_Average_RTT_40" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c22
Icon display	Signal name

3.18.1.1.37. "DNS_based_Average_RTT_41" (From)**Table 3.395. "DNS_based_Average_RTT_41" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c23
Icon display	Signal name

3.18.1.1.38. "DNS_based_Average_RTT_42" (From)**Table 3.396. "DNS_based_Average_RTT_42" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c24
Icon display	Signal name

3.18.1.1.39. "DNS_based_Average_RTT_43" (From)**Table 3.397. "DNS_based_Average_RTT_43" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c25
Icon display	Signal name

3.18.1.1.40. "DNS_based_Average_RTT_44" (From)**Table 3.398. "DNS_based_Average_RTT_44" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c03
Icon display	Signal name

3.18.1.1.41. "DNS_based_Average_RTT_45" (From)**Table 3.399. "DNS_based_Average_RTT_45" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c04
Icon display	Signal name

3.18.1.1.42. "DNS_based_Average_RTT_46" (From)**Table 3.400. "DNS_based_Average_RTT_46" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c05
Icon display	Signal name

3.18.1.1.43. "DNS_based_Average_RTT_47" (From)**Table 3.401. "DNS_based_Average_RTT_47" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c06
Icon display	Signal name

3.18.1.1.44. "DNS_based_Average_RTT_48" (From)**Table 3.402. "DNS_based_Average_RTT_48" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c07
Icon display	Signal name

3.18.1.1.45. "DNS_based_Average_RTT_49" (From)**Table 3.403. "DNS_based_Average_RTT_49" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c08
Icon display	Signal name

3.18.1.1.46. "DNS_based_Average_RTT_5" (From)**Table 3.404. "DNS_based_Average_RTT_5" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c05
Icon display	Signal name

3.18.1.1.47. "DNS_based_Average_RTT_50" (From)**Table 3.405. "DNS_based_Average_RTT_50" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c09
Icon display	Signal name

3.18.1.1.48. "DNS_based_Average_RTT_6" (From)**Table 3.406. "DNS_based_Average_RTT_6" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c06
Icon display	Signal name

3.18.1.1.49. "DNS_based_Average_RTT_7" (From)**Table 3.407. "DNS_based_Average_RTT_7" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c07
Icon display	Signal name

3.18.1.1.50. "DNS_based_Average_RTT_8" (From)**Table 3.408. "DNS_based_Average_RTT_8" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c08
Icon display	Signal name

3.18.1.1.51. "DNS_based_Average_RTT_9" (From)**Table 3.409. "DNS_based_Average_RTT_9" Parameters**

Parameter	Value
Goto tag	dns_av_rtt_c09
Icon display	Signal name

3.18.1.1.52. "DNS_based_RTT" (From)**Table 3.410. "DNS_based_RTT" Parameters**

Parameter	Value
Goto tag	dns_rtt_c01
Icon display	Signal name

3.18.1.1.53. "Goto4" (Goto)**Table 3.411. "Goto4" Parameters**

Parameter	Value
Tag	avg_dns
Icon display	Tag
Tag visibility	global

3.18.1.1.54. "Mux" (Mux)**Table 3.412. "Mux" Parameters**

Parameter	Value
Number of inputs	10
Display option	bar

3.18.1.1.55. "Mux2" (Mux)**Table 3.413. "Mux2" Parameters**

Parameter	Value
Number of inputs	2
Display option	signals

3.18.1.1.56. "Mux5" (Mux)**Table 3.414. "Mux5" Parameters**

Parameter	Value
Number of inputs	2
Display option	signals

3.18.1.1.57. "Mux6" (Mux)**Table 3.415. "Mux6" Parameters**

Parameter	Value
Number of inputs	25
Display option	signals

3.18.1.1.58. "Subtract" (Sum)**Table 3.416. "Subtract" Parameters**

Parameter	Value
Icon shape	rectangular
List of signs	+ -
Sum over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
Accumulator data type	Inherit: Inherit via internal rule
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Inherit via internal rule
Lock data type settings against changes by the fixed-point tools	off

Parameter	Value
Integer rounding mode	Floor
Saturate on integer overflow	off
Sample time (-1 for inherited)	-1

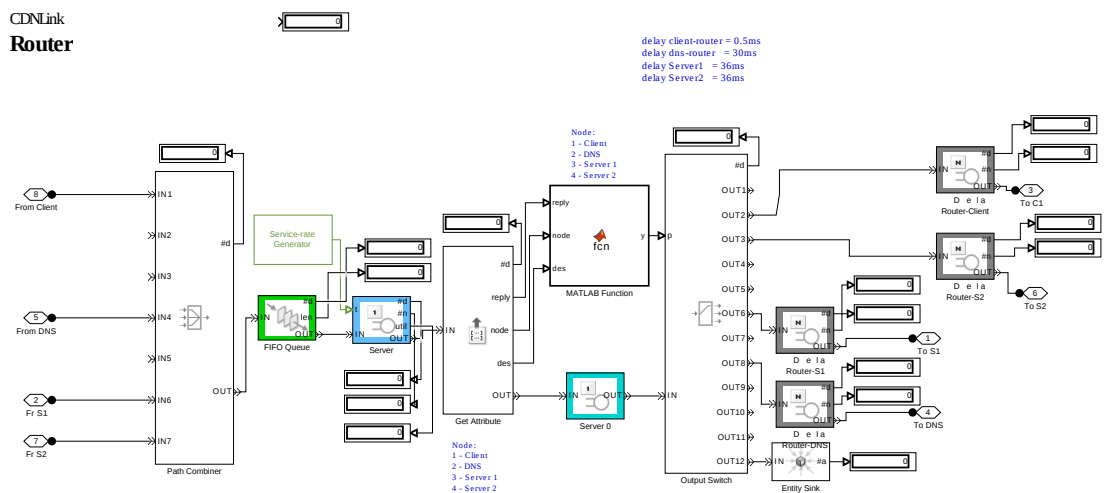
3.18.1.1.59. "To File" (ToFile)

Table 3.417. "To File" Parameters

Parameter	Value
File name	avgrtt5_25.mat
Variable name	avgrtt5_25
Save format	Array
Decimation	2
Sample time (-1 for inherited)	-1

3.19. Router

Figure 3.19. cdnlink_dns/Router



3.19.1. Blocks

3.19.1.1. Parameters

3.19.1.1.1. "Delay Router-Client" (NServer)**Table 3.418. "Delay Router-Client" Parameters**

Parameter	Value
Number of servers	10000
Service time from	Dialog
Service time	0.0005
Attribute name	ServiceTime
Service completion event priority	500
Allow service control	off
Service change upon disabling	Pause
Block entity entry to disabled servers	off
Control event priority	2300
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities in block, #n	on
Pending entity present in block, pe	off
Number of pending entities, #pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-d-out, #to	off
Server occupancy, so	off

3.19.1.1.2. "Delay Router-DNS" (NServer)**Table 3.419. "Delay Router-DNS" Parameters**

Parameter	Value
Number of servers	10000
Service time from	Dialog
Service time	0.036
Attribute name	ServiceTime
Service completion event priority	500

Parameter	Value
Allow service control	off
Service change upon disabling	Pause
Block entity entry to disabled servers	off
Control event priority	2300
Enable TO port for time-out entities	off
Number of entities departed, #d	on
Number of entities in block, #n	on
Pending entity present in block, pe	off
Number of pending entities, #pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-out, #to	off
Server occupancy, so	off

3.19.1.1.3. "Delay Router-S1" (NServer)

Table 3.420. "Delay Router-S1" Parameters

Parameter	Value
Number of servers	10000
Service time from	Dialog
Service time	0.036
Attribute name	ServiceTime
Service completion event priority	500
Allow service control	off
Service change upon disabling	Pause
Block entity entry to disabled servers	off
Control event priority	2300
Enable TO port for time-out entities	off

Parameter	Value
Number of entities departed, #d	on
Number of entities in block, #n	on
Pending entity present in block, pe	off
Number of pending entities, #pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-d-out, #to	off
Server occupancy, so	off

3.19.1.1.4. "Delay Router-S2" (NServer)

Table 3.421. "Delay Router-S2" Parameters

Parameter	Value
Number of servers	10000
Service time from	Dialog
Service time	0.036
Attribute name	ServiceTime
Service completion event priority	500
Allow service control	off
Service change upon disabling	Pause
Block entity entry to disabled servers	off
Control event priority	2300
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities in block, #n	on
Pending entity present in block, pe	off
Number of pending entities, #pe	off
Average wait, w	off

Parameter	Value
Utilization, util	off
Number of entities time-out, #to	off
Server occupancy, so	off

3.19.1.1.5. "Display1" (Display)

Table 3.422. "Display1" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.19.1.1.6. "Display10" (Display)

Table 3.423. "Display10" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.19.1.1.7. "Display11" (Display)

Table 3.424. "Display11" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.19.1.1.8. "Display12" (Display)

Table 3.425. "Display12" Parameters

Parameter	Value
Format	short
Decimation	1

Parameter	Value
Floating display	off

3.19.1.1.9. "Display13" (Display)

Table 3.426. "Display13" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.19.1.1.10. "Display14" (Display)

Table 3.427. "Display14" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.19.1.1.11. "Display15" (Display)

Table 3.428. "Display15" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.19.1.1.12. "Display16" (Display)

Table 3.429. "Display16" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.19.1.1.13. "Display17" (Display)**Table 3.430. "Display17" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.19.1.1.14. "Display2" (Display)**Table 3.431. "Display2" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.19.1.1.15. "Display25" (Display)**Table 3.432. "Display25" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.19.1.1.16. "Display3" (Display)**Table 3.433. "Display3" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.19.1.1.17. "Display4" (Display)**Table 3.434. "Display4" Parameters**

Parameter	Value
Format	short

Parameter	Value
Decimation	1
Floating display	off

3.19.1.1.18. "Display5" (Display)

Table 3.435. "Display5" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.19.1.1.19. "Display6" (Display)

Table 3.436. "Display6" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.19.1.1.20. "Display7" (Display)

Table 3.437. "Display7" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.19.1.1.21. "Display8" (Display)

Table 3.438. "Display8" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.19.1.1.22. "Display9" (Display)**Table 3.439. "Display9" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.19.1.1.23. "Entity Sink" (EntitySink)**Table 3.440. "Entity Sink" Parameters**

Parameter	Value
Input port available for entity arrivals	on
Report number of entities arrived, #a	on

3.19.1.1.24. "FIFO Queue" (FIFOQueue)**Table 3.441. "FIFO Queue" Parameters**

Parameter	Value
Capacity	2000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities in queue, #n	off
Average wait, w	off
Average queue length, len	on
Number of entities time-d-out, #to	off

3.19.1.1.25. "Fr S1" (PMIOPort)**Table 3.442. "Fr S1" Parameters**

Parameter	Value
Port number	2

Parameter	Value
Port location on parent subsystem	Right

3.19.1.1.26. "Fr S2" (PMIOPort)

Table 3.443. "Fr S2" Parameters

Parameter	Value
Port number	7
Port location on parent subsystem	Right

3.19.1.1.27. "From Client" (PMIOPort)

Table 3.444. "From Client" Parameters

Parameter	Value
Port number	8
Port location on parent subsystem	Left

3.19.1.1.28. "From DNS" (PMIOPort)

Table 3.445. "From DNS" Parameters

Parameter	Value
Port number	5
Port location on parent subsystem	Right

3.19.1.1.29. "Get Attribute" (GetAttribute)

Table 3.446. "Get Attribute" Parameters

Parameter	Value
Attribute names	reply node des
If attributes are missing	Error Error Default value
Attribute default values	1 1 0
Treat vector attributes as 1-D	1 1 1

Parameter	Value
Number of entities departed, #d	on

3.19.1.1.30. "MATLAB Function" (MATLAB Function)

Table 3.447. MATLAB Function Function Properties

Property	Value
Update Method	INHERITED
Sample Time	
Support variable-size arrays	1
Saturate on integer overflow	1
Treat these inherited Simulink signal types as fi objects	Fixed-point
Input fi math	fimath(...)
Description	

Table 3.448. MATLAB Function Argument Summary

Name	Scope	Port	Data Type	Size
y	Output	1	double	1
reply	Input	1	double	1
node	Input	2	double	1
des	Input	3	double	1

MATLAB Function Function Script

```
function y = fcn(reply, node, des)

y = nan;

if node == 1 && reply == 1
    if des == 2
        y = 8;
    else
        if des == 3
            y = 6;
        else
            if des == 4
                y = 3;
            end;
        end;
    end;
end;
```

```

        end;
        end;

    else
    if node == 2 && reply == 2
        if des == 1
            y = 2;
        else
            y = 12;
        end;

    else
    if node == 3 && reply == 2
        if des == 1
            y = 2;
        else
            y = 12;
        end;
    else
        y = 12;
    end;

end;
end;
end;

```

3.19.1.1.31. "Output Switch" (OutputSwitch)

Table 3.449. "Output Switch" Parameters

Parameter	Value
Number of entity output ports	12
Switching criterion	From signal port p
Initial seed	34567
Attribute name	cluster
Specify initial port selection	off
Initial port selection	1
Store entity before switching	off
Resolve simultaneous signal updates according to event priority	off
Event priority	4000

Parameter	Value
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities time-d-out, #to	off
Pending entity present in block, pe	off
Last entity departure port, last	off

3.19.1.1.32. "Path Combiner" (PathCombiner)

Table 3.450. "Path Combiner" Parameters

Parameter	Value
Number of entity input ports	7
Input port precedence	IN1 port
Initial seed	45675
Resolve simultaneous signal updates according to event priority	off
Event priority	4100
Number of entities departed, #d	on
Last entity arrival port, last	off

3.19.1.1.33. "Server" (SingleServer)

Table 3.451. "Server" Parameters

Parameter	Value
Service time from	Signal port t
Service time	0.0006
Attribute name	ServiceTimeRDC1
Service completion event priority	500
Permit preemption based on attribute	off
Sorting attribute name	PriorityAttributeName

Parameter	Value
Sorting direction	Ascending
Write residual service time to attribute	off
Residual service time attribute name	ResidualServiceTime
Create attribute if not present	on
Enable TO port for time-out entities	off
Number of entities departed, #d	on
Number of entities in block, #n	on
Number of entities preempted, #p	off
Pending entity present in block, pe	off
Average wait, w	off
Utilization, util	on
Number of entities time-out, #to	off

3.19.1.1.34. "Server 0" (SingleServer)

Table 3.452. "Server 0" Parameters

Parameter	Value
Service time from	Dialog
Service time	0
Attribute name	ServiceTimeDNS
Service completion event priority	500
Permit preemption based on attribute	off
Sorting attribute name	PriorityAttributeName
Sorting direction	Ascending
Write residual service time to attribute	off
Residual service time attribute name	ResidualServiceTime
Create attribute if not present	on

Parameter	Value
Enable TO port for time-d-out entities	off
Number of entities departed, #d	off
Number of entities in block, #n	off
Number of entities preempted, #p	off
Pending entity present in block, pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-d-out, #to	off

3.19.1.1.35. "To C1" (PMIOPort)

Table 3.453. "To C1" Parameters

Parameter	Value
Port number	3
Port location on parent subsystem	Left

3.19.1.1.36. "To DNS" (PMIOPort)

Table 3.454. "To DNS" Parameters

Parameter	Value
Port number	4
Port location on parent subsystem	Right

3.19.1.1.37. "To S1" (PMIOPort)

Table 3.455. "To S1" Parameters

Parameter	Value
Port number	1

Parameter	Value
Port location on parent subsystem	Right

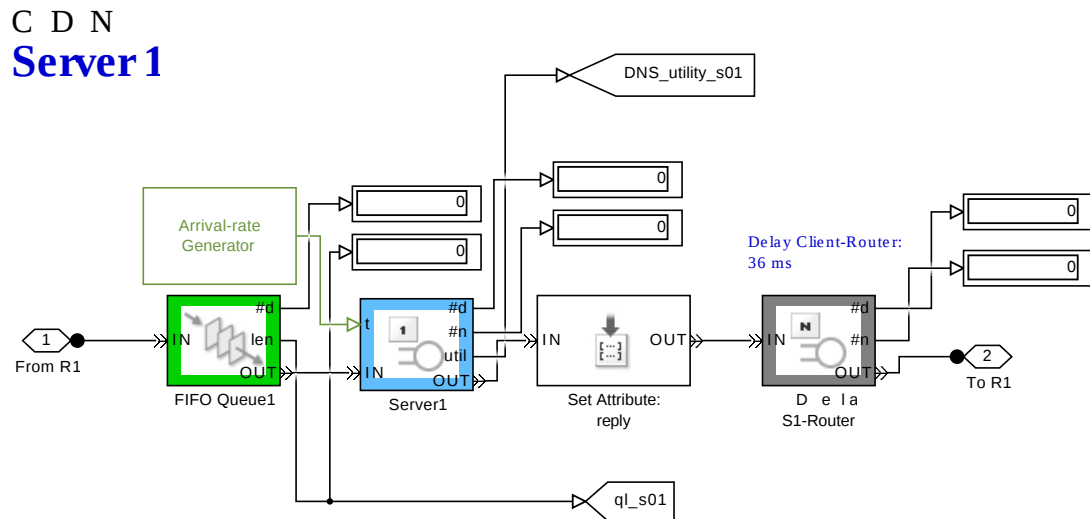
3.19.1.1.38. "To S2" (PMIOPort)

Table 3.456. "To S2" Parameters

Parameter	Value
Port number	6
Port location on parent subsystem	Right

3.20. Server_1

Figure 3.20. cdnlink_dns/Server_1



3.20.1. Blocks

3.20.1.1. Parameters

3.20.1.1.1. "Delay S1-Router" (NServer)

Table 3.457. "Delay S1-Router" Parameters

Parameter	Value
Number of servers	10000
Service time from	Dialog

Parameter	Value
Service time	0.036
Attribute name	ServiceTime
Service completion event priority	500
Allow service control	off
Service change upon disabling	Pause
Block entity entry to disabled servers	off
Control event priority	2300
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities in block, #n	on
Pending entity present in block, pe	off
Number of pending entities, #pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-d-out, #to	off
Server occupancy, so	off

3.20.1.1.2. "Display1" (Display)

Table 3.458. "Display1" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.20.1.1.3. "Display2" (Display)

Table 3.459. "Display2" Parameters

Parameter	Value
Format	short

Parameter	Value
Decimation	1
Floating display	off

3.20.1.1.4. "Display28" (Display)

Table 3.460. "Display28" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.20.1.1.5. "Display3" (Display)

Table 3.461. "Display3" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.20.1.1.6. "Display6" (Display)

Table 3.462. "Display6" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.20.1.1.7. "Display7" (Display)

Table 3.463. "Display7" Parameters

Parameter	Value
Format	short
Decimation	1

Parameter	Value
Floating display	off

3.20.1.1.8. "FIFO Queue1" (FIFOQueue)

Table 3.464. "FIFO Queue1" Parameters

Parameter	Value
Capacity	2000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities in queue, #n	off
Average wait, w	off
Average queue length, len	on
Number of entities time-d-out, #to	off

3.20.1.1.9. "From R1" (PMIOPort)

Table 3.465. "From R1" Parameters

Parameter	Value
Port number	1
Port location on parent subsystem	Left

3.20.1.1.10. "Goto1" (Goto)

Table 3.466. "Goto1" Parameters

Parameter	Value
Tag	DNS_utility_s01
Icon display	Tag
Tag visibility	global

3.20.1.1.11. "Goto3" (Goto)**Table 3.467. "Goto3" Parameters**

Parameter	Value
Tag	ql_s01
Icon display	Tag
Tag visibility	global

3.20.1.1.12. "Server1" (SingleServer)**Table 3.468. "Server1" Parameters**

Parameter	Value
Service time from	Signal port t
Service time	0.0006
Attribute name	ServiceTimeRDC1
Service completion event priority	500
Permit preemption based on attribute	off
Sorting attribute name	PriorityAttributeName
Sorting direction	Ascending
Write residual service time to attribute	off
Residual service time attribute name	ResidualServiceTime
Create attribute if not present	on
Enable TO port for time-out entities	off
Number of entities departed, #d	on
Number of entities in block, #n	on
Number of entities preempted, #p	off
Pending entity present in block, pe	off
Average wait, w	off
Utilization, util	on
Number of entities time-out, #to	off

3.20.1.1.13. "Set Attribute: reply" (SetAttribute)

Table 3.469. "Set Attribute: reply" Parameters

Parameter	Value
Attribute names	reply node des
Attributes from	Dialog Dialog Dialog
Attribute values	2 3 1
Treat vectors as 1-D	1 1 1
Create attributes if not present	off
Number of entities departed, #d	off

3.20.1.1.14. "To R1" (PMIOPort)

Table 3.470. "To R1" Parameters

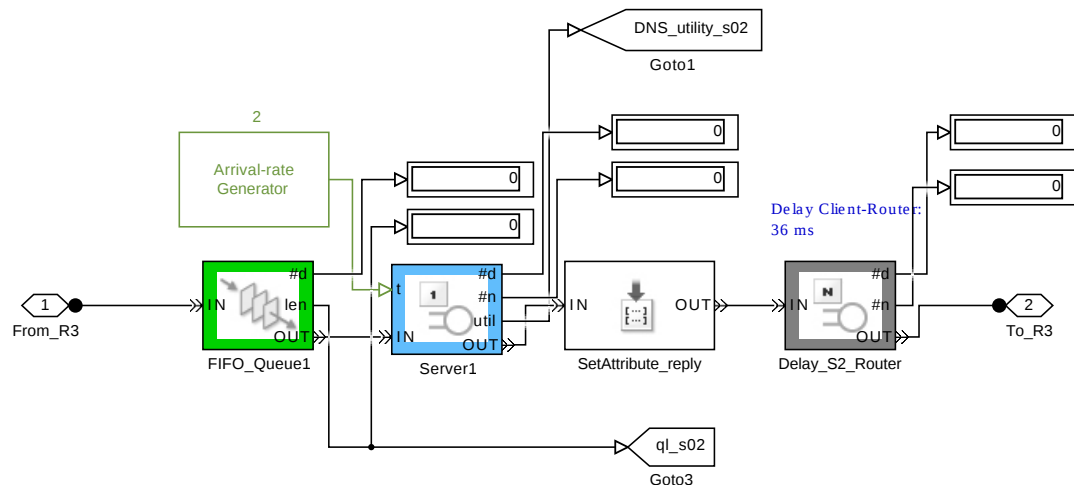
Parameter	Value
Port number	2
Port location on parent subsystem	Left

3.21. Server_2

Figure 3.21. cdnlink_dns/Server_2

CDNLink

Server 2



3.21.1. Blocks

3.21.1.1. Parameters

3.21.1.1.1. "Delay_S2_Router" (NServer)

Table 3.471. "Delay_S2_Router" Parameters

Parameter	Value
Number of servers	10000
Service time from	Dialog
Service time	0.036
Attribute name	ServiceTime
Service completion event priority	500
Allow service control	off
Service change upon disabling	Pause
Block entity entry to disabled servers	off
Control event priority	2300
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities in block, #n	on
Pending entity present in block, pe	off
Number of pending entities, #pe	off
Average wait, w	off
Utilization, util	off
Number of entities time-d-out, #to	off
Server occupancy, so	off

3.21.1.1.2. "Display1" (Display)

Table 3.472. "Display1" Parameters

Parameter	Value
Format	short

Parameter	Value
Decimation	1
Floating display	off

3.21.1.1.3. "Display2" (Display)

Table 3.473. "Display2" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.21.1.1.4. "Display28" (Display)

Table 3.474. "Display28" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.21.1.1.5. "Display3" (Display)

Table 3.475. "Display3" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.21.1.1.6. "Display6" (Display)

Table 3.476. "Display6" Parameters

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.21.1.1.7. "Display7" (Display)**Table 3.477. "Display7" Parameters**

Parameter	Value
Format	short
Decimation	1
Floating display	off

3.21.1.1.8. "FIFO_Queue1" (FIFOQueue)**Table 3.478. "FIFO_Queue1" Parameters**

Parameter	Value
Capacity	2000
Enable TO port for time-d-out entities	off
Number of entities departed, #d	on
Number of entities in queue, #n	off
Average wait, w	off
Average queue length, len	on
Number of entities time-d-out, #to	off

3.21.1.1.9. "From_R3" (PMIOPort)**Table 3.479. "From_R3" Parameters**

Parameter	Value
Port number	1
Port location on parent subsystem	Left

3.21.1.1.10. "Goto1" (Goto)**Table 3.480. "Goto1" Parameters**

Parameter	Value
Tag	DNS_utility_s02
Icon display	Signal name

Parameter	Value
Tag visibility	global

3.21.1.1.11. "Goto3" (Goto)

Table 3.481. "Goto3" Parameters

Parameter	Value
Tag	ql_s02
Icon display	Tag
Tag visibility	global

3.21.1.1.12. "Server1" (SingleServer)

Table 3.482. "Server1" Parameters

Parameter	Value
Service time from	Signal port t
Service time	0.0006
Attribute name	ServiceTimeRDC1
Service completion event priority	500
Permit preemption based on attribute	off
Sorting attribute name	PriorityAttributeName
Sorting direction	Ascending
Write residual service time to attribute	off
Residual service time attribute name	ResidualServiceTime
Create attribute if not present	on
Enable TO port for time-out entities	off
Number of entities departed, #d	on
Number of entities in block, #n	on
Number of entities preempted, #p	off
Pending entity present in block, pe	off
Average wait, w	off

Parameter	Value
Utilization, util	on
Number of entities time-d-out, #to	off

3.21.1.1.13. "SetAttribute_reply" (SetAttribute)

Table 3.483. "SetAttribute_reply" Parameters

Parameter	Value
Attribute names	reply node des
Attributes from	Dialog Dialog Dialog
Attribute values	2 3 1
Treat vectors as 1-D	1 1 1
Create attributes if not present	off
Number of entities departed, #d	off

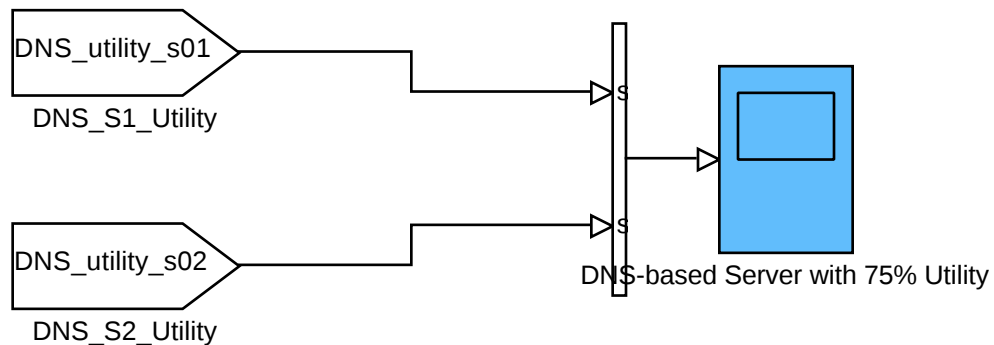
3.21.1.1.14. "To_R3" (PMIOPort)

Table 3.484. "To_R3" Parameters

Parameter	Value
Port number	2
Port location on parent subsystem	Left

3.22. Utilities

Figure 3.22. cdnlink_dns/background/Utilities



3.22.1. Blocks

3.22.1.1. Parameters

3.22.1.1.1. "DNS_S1_Utility" (From)

Table 3.485. "DNS_S1_Utility" Parameters

Parameter	Value
Goto tag	DNS_utility_s01
Icon display	Tag

3.22.1.1.2. "DNS_S2_Utility" (From)

Table 3.486. "DNS_S2_Utility" Parameters

Parameter	Value
Goto tag	DNS_utility_s02
Icon display	Tag

3.22.1.1.3. "Mux5" (Mux)

Table 3.487. "Mux5" Parameters

Parameter	Value
Number of inputs	2
Display option	signals

Chapter 4. Requirements Traceability

cdnlink_dns does not contain requirements traceability links.

Chapter 5. System Model Configuration

Table 5.1. cdnlink_dns Configuration Set

Property	Value
Description	
Components	[cdnlink_dns Configuration Set.Components(1) [-207], cdnlink_dns Configuration Set.Components(2) [208], cdnlink_dns Configuration Set.Components(3) [209], cdnlink_dns Configuration Set.Components(4) [210], cdnlink_dns Configuration Set.Components(5) [212], cdnlink_dns Configuration Set.Components(6) [214], cdnlink_dns Configuration Set.Components(7) [214], cdnlink_dns Configuration Set.Components(8) [-215], cdnlink_dns Configuration Set.Components(9) [217]]
Name	Configuration
SimulationMode	normal

Table 5.2. cdnlink_dns Configuration Set.Components [207](1)

Property	Value
Name	Solver
Description	
Components	
StartTime	0.0
StopTime	5000
AbsTol	auto
FixedStep	auto
InitialStep	auto
MaxNumMinSteps	-1
MaxOrder	5
ZcThreshold	auto
ConsecutiveZCsStepRelTol	10*128*eps
MaxConsecutiveZCs	1000
ExtrapolationOrder	4
NumberNewtonIterations	1
MaxStep	auto
MinStep	auto
MaxConsecutiveMinStep	1
RelTol	1e-3
SolverMode	Auto

EnableConcurrentExecution	off
ConcurrentTasks	off
Solver	ode45
SolverName	ode45
SolverType	Variable-step
SolverJacobianMethodControl	auto
ShapePreserveControl	DisableAll
ZeroCrossControl	UseLocalSettings
ZeroCrossAlgorithm	Nonadaptive
SolverResetMethod	Fast
PositivePriorityOrder	off
AutoInsertRateTranBlk	off
SampleTimeConstraint	Unconstrained
InsertRTBMode	Whenever possible
SampleTimeProperty	

Table 5.3. cdnlink_dns Configuration Set.Components [207](2)

Property	Value
Name	Data Import/Export
Description	
Components	
Decimation	1
ExternalInput	[t, u]
FinalStateName	xFinal
InitialState	xInitial
LimitDataPoints	on
MaxDataPoints	1000
LoadExternalInput	off
LoadInitialState	off
SaveFinalState	off
SaveCompleteFinalSimState	off
SaveFormat	Array
SignalLoggingSaveFormat	Dataset
SaveOutput	on
SaveState	off
SignalLogging	on
DSMLogging	on
InspectSignalLogs	off
VisualizeSimOutput	on

SaveTime	on
ReturnWorkspaceOutputs	off
StateSaveName	xout
TimeSaveName	tout
OutputSaveName	yout
SignalLoggingName	logsout
DSMLoggingName	dsmout
OutputOption	RefineOutputTimes
OutputTimes	[]
ReturnWorkspaceOutputsName	out
Refine	1

Table 5.4. cdnlink_dns Configuration Set.Components [207](3)

Property	Value
Name	Optimization
Description	
Components	
BlockReduction	on
BooleanDataType	on
ConditionallyExecuteInputs	on
InlineParams	off
UseIntDivNetSlope	off
UseFloatMulNetSlope	off
DefaultUnderspecifiedDataType	double
UseSpecifiedMinMax	off
InlineInvariantSignals	off
OptimizeBlockIOStorage	on
BufferReuse	on
GlobalBufferReuse	on
GlobalVariableUsage	None
StrengthReduction	off
AdvancedOptControl	
EnforceIntegerDowncast	on
ExpressionFolding	on
BooleansAsBitFields	off
BitfieldContainerType	uint_T
EnableMemcpy	on
MemcpyThreshold	64
PassReuseOutputArgsAs	Structure reference

PassReuseOutputArgsThreshold	12
FoldNonRolledExpr	on
LocalBlockOutputs	on
RollThreshold	5
SystemCodeInlineAuto	off
StateBitsets	off
DataBitsets	off
ActiveStateOutputEnumStorageType	Native Integer
UseTempVars	off
ZeroExternalMemoryAtStartup	on
ZeroInternalMemoryAtStartup	on
InitFltsAndDblsToZero	off
NoFixptDivByZeroProtection	off
EfficientFloat2IntCast	off
EfficientMapNaN2IntZero	on
OptimizeModelRefInitCode	off
LifeSpan	inf
EvaledLifeSpan	Inf
MaxStackSize	Inherit from target
BufferReusableBoundary	on
SimCompilerOptimization	Off
AccelVerboseBuild	off
ParallelExecutionInRapidAccelerator	on

Table 5.5. cdnlink_dns Configuration Set.Components [207](4)

Property	Value
Name	Diagnostics
Description	
Components	
RTPrefix	error
ConsistencyChecking	none
ArrayBoundsChecking	none
SignalInfNanChecking	none
SignalRangeChecking	none
ReadBeforeWriteMsg	UseLocalSettings
WriteAfterWriteMsg	UseLocalSettings
WriteAfterReadMsg	UseLocalSettings
AlgebraicLoopMsg	warning
ArtificialAlgebraicLoopMsg	warning

SaveWithDisabledLinksMsg	warning
SaveWithParameterizedLinksMsg	warning
CheckSSInitialOutputMsg	on
UnderspecifiedInitializationDetection	Classic
MergeDetectMultiDrivingBlocksExec	none
CheckExecutionContextPreStartOutputMsg	off
CheckExecutionContextRuntimeOutputMsg	off
SignalResolutionControl	UseLocalSettings
BlockPriorityViolationMsg	warning
MinStepSizeMsg	warning
TimeAdjustmentMsg	none
MaxConsecutiveZCsMsg	error
MaskedZcDiagnostic	warning
IgnoredZcDiagnostic	warning
SolverPrmCheckMsg	warning
InheritedTsInSrcMsg	warning
DiscreteInheritContinuousMsg	warning
MultiTaskDSMMsg	error
MultiTaskCondExecSysMsg	error
MultiTaskRateTransMsg	error
SingleTaskRateTransMsg	none
TasksWithSamePriorityMsg	warning
SigSpecEnsureSampleTimeMsg	warning
CheckMatrixSingularityMsg	none
IntegerOverflowMsg	warning
Int32ToFloatConvMsg	warning
ParameterDowncastMsg	error
ParameterOverflowMsg	error
ParameterUnderflowMsg	none
ParameterPrecisionLossMsg	warning
ParameterTunabilityLossMsg	warning
FixptConstUnderflowMsg	none
FixptConstOverflowMsg	none
FixptConstPrecisionLossMsg	none
UnderSpecifiedDataTypeMsg	none
UnnecessaryDatatypeConvMsg	none
VectorMatrixConversionMsg	none
InvalidFcnCallConnMsg	error
FcnCallInpInsideContextMsg	EnableAllAsWarning

SignalLabelMismatchMsg	none
UnconnectedInputMsg	warning
UnconnectedOutputMsg	warning
UnconnectedLineMsg	warning
SFcnCompatibilityMsg	none
FrameProcessingCompatibilityMsg	warning
UniqueDataStoreMsg	none
BusObjectLabelMismatch	warning
RootOutputRequireBusObject	warning
AssertControl	UseLocalSettings
Echo	
EnableOverflowDetection	off
ModelReferenceIOMsg	none
ModelReferenceVersionMismatchMessage	none
ModelReferenceIOMismatchMessage	none
ModelReferenceCSMismatchMessage	none
ModelReferenceSimTargetVerbose	off
UnknownTsInhSupMsg	warning
ModelReferenceDataLoggingMessage	warning
ModelReferenceSymbolNameMessage	warning
ModelReferenceExtraNoncontSigs	error
StateNameClashWarn	warning
SimStateInterfaceChecksumMismatchMsg	warning
SimStateOlderReleaseMsg	error
InitInArrayFormatMsg	warning
StrictBusMsg	ErrorLevel1
BusNameAdapt	WarnAndRepair
NonBusSignalsTreatedAsBus	none
LoggingUnavailableSignals	error
SFUnusedDataAndEventsDiag	warning
SFUnexpectedBacktrackingDiag	warning
SFInvalidInputDataAccessInChartInitDiag	warning
SFNoUnconditionalDefaultTransitionDiag	warning
SFTransitionOutsideNaturalParentDiag	warning
SFUnconditionalTransitionShadowingDiag	warning
SFUndirectedBroadcastEventsDiag	warning
SFTransitionActionBeforeConditionDiag	warning

Table 5.6. cdnlink_dns Configuration Set.Components [207](5)

Property	Value
Name	Hardware Implementation
Description	
Components	
ProdBitPerChar	8
ProdBitPerShort	16
ProdBitPerInt	32
ProdBitPerLong	32
ProdBitPerLongLong	64
ProdBitPerFloat	32
ProdBitPerDouble	64
ProdBitPerPointer	32
ProdLargestAtomicInteger	Char
ProdLargestAtomicFloat	None
ProdIntDivRoundTo	Undefined
ProdEndianess	Unspecified
ProdWordSize	32
ProdShiftRightIntArith	on
ProdLongLongMode	off
ProdHWDeviceType	32-bit Generic
TargetBitPerChar	8
TargetBitPerShort	16
TargetBitPerInt	32
TargetBitPerLong	32
TargetBitPerLongLong	64
TargetBitPerFloat	32
TargetBitPerDouble	64
TargetBitPerPointer	32
TargetLargestAtomicInteger	Char
TargetLargestAtomicFloat	None
TargetShiftRightIntArith	on
TargetLongLongMode	off
TargetIntDivRoundTo	Undefined
TargetEndianess	Unspecified
TargetWordSize	32
TargetTypeEmulationWarnSuppressLevel	0
TargetPreprocMaxBitsSint	32
TargetPreprocMaxBitsUint	32

TargetHWDeviceType	Specified
TargetUnknown	off
ProdEqTarget	on

Table 5.7. cdnlink_dns Configuration Set.Components [207](6)

Property	Value
Name	Model Referencing
Description	
Components	
UpdateModelReferenceTargets	IfOutOfDateOrStructuralChange
CheckModelReferenceTargetMessage	error
EnableParallelModelReferenceBuilds	off
ParallelModelReferenceErrorOnInvalidPool	on
ParallelModelReferenceMATLABWorkerInit	None
ModelReferenceNumInstancesAllowed	Multi
PropagateVarSize	Infer from blocks in model
ModelDependencies	
ModelReferencePassRootInputsByReference	on
ModelReferenceMinAlgLoopOccurrences	off
PropagateSignalLabelsOutOfModel	off
SupportModelReferenceSimTargetCustomCode	off

Table 5.8. cdnlink_dns Configuration Set.Components [207](7)

Property	Value
Name	Simulation Target
Description	
Components	
SimCustomSourceCode	
SimCustomHeaderCode	
SimCustomInitializer	
SimCustomTerminator	
SimReservedNameArray	
SimUserSources	
SimUserIncludeDirs	
SimUserLibraries	
SFSimEnableDebug	on
SFSimOverflowDetection	on
SFSimEcho	on
SimBlas	on

SimCtrlC	on
SimExtrinsic	on
SimIntegrity	on
SimUseLocalCustomCode	off
SimParseCustomCode	on
SimBuildMode	sf_incremental_build
SimDataInitializer	
SimGenImportedTypeDefs	off

Table 5.9. cdnlink_dns Configuration Set.Components [207](8)

Property	Value
Name	Code Generation
SystemTargetFile	grt.tlc
TLCOptions	
CodeGenDirectory	
GenCodeOnly	off
MakeCommand	make_rtw
GenerateMakefile	on
PackageGeneratedCodeAndArtifacts	off
PackageName	
TemplateMakefile	grt_default_tmf
PostCodeGenCommand	
Description	
GenerateReport	off
SaveLog	off
RTWVerbose	on
RetainRTWFile	off
ProfileTLC	off
TLCDebug	off
TLCCoverage	off
TLCAssert	off
ProcessScriptMode	Default
ConfigurationMode	Optimized
ProcessScript	
ConfigurationScript	
ConfigAtBuild	off
RTWUseLocalCustomCode	off
RTWUseSimCustomCode	off
CustomSourceCode	

CustomHeaderCode	
CustomInclude	
CustomSource	
CustomLibrary	
CustomInitializer	
CustomTerminator	
Toolchain	Automatically locate an installed toolchain
BuildConfiguration	Faster Builds
CustomToolchainOptions	
IncludeHyperlinkInReport	off
LaunchReport	off
PortableWordSizes	off
GenerateErtSFunction	off
CreateSILPILBlock	None
CodeExecutionProfiling	off
CodeExecutionProfileVariable	executionProfile
CodeProfilingSaveOptions	SummaryOnly
CodeProfilingInstrumentation	off
SILDebugging	off
TargetLang	C
IncludeRootSignalInRTWFile	off
IncludeVirtualBlocksInRTWFileBlockHierarchy-Map	off
IncludeRegionsInRTWFileBlockHierarchyMap	off
IncludeERTFirstTime	off
GenerateTraceInfo	off
GenerateTraceReport	off
GenerateTraceReportSl	off
GenerateTraceReportSf	off
GenerateTraceReportEml	off
GenerateCodeInfo	off
GenerateWebview	off
GenerateCodeMetricsReport	off
GenerateCodeReplacementReport	off
RTWCompilerOptimization	Off
ObjectivePriorities	
RTWCustomCompilerOptimizations	
CheckMdlBeforeBuild	Off
CustomRebuildMode	OnUpdate

DataInitializer	
Components	[cdnlink_dns Configuration Set.Components(8).Components(1) [217], cdnlink_dns Configuration Set.Components(8).Components(2) [218]]

Table 5.10. cdnlink_dns Configuration Set.Components [207](9)

Property	Value
Description	
Components	
Name	SimEvents
SimEventsActiveTab	0
propIdentEvents	0
propIdentEventSeed	123456789
propMaxDesBlkSimulEvents	1000
propMaxDesMdlSimulEvents	100000
propDiagAttribOutput	2
propDiagFcnCallOutput	2
propDiagStatOutput	2
propDiagChangeAttrib	2
propRNGIdenticalSeeds	1
propPreventDuplicateEvents	true

Table 5.11. cdnlink_dns Configuration Set.Components(8).Components [217](1)

Property	Value
Name	Code Appearance
Description	
Components	
Comment	
ForceParamTrailComments	off
GenerateComments	on
CommentStyle	Auto
IgnoreCustomStorageClasses	on
IgnoreTestpoints	off
IncHierarchyInIds	off
MaxIdLength	31
PreserveName	off
PreserveNameWithParent	off
ShowEliminatedStatement	off

OperatorAnnotations	off
IncAutoGenComments	off
SimulinkDataObjDesc	off
SFDataObjDesc	off
MATLABFcnDesc	off
IncDataTypeInIds	off
PrefixModelToSubsysFcnNames	on
MangleLength	1
CustomSymbolStr	\$R\$N\$M
CustomSymbolStrGlobalVar	\$R\$N\$M
CustomSymbolStrType	\$N\$R\$M_T
CustomSymbolStrField	\$N\$M
CustomSymbolStrFcn	\$R\$N\$M\$F
CustomSymbolStrFcnArg	rt\$I\$N\$M
CustomSymbolStrBlkIO	rtb_\$N\$M
CustomSymbolStrTmpVar	\$N\$M
CustomSymbolStrMacro	\$R\$N\$M
CustomSymbolStrUtil	\$N\$C
CustomCommentsFcn	
DefineNamingRule	None
DefineNamingFcn	
ParamNamingRule	None
ParamNamingFcn	
SignalNamingRule	None
SignalNamingFcn	
InsertBlockDesc	off
InsertPolySpaceComments	off
SimulinkBlockComments	on
MATLABSourceComments	off
EnableCustomComments	off
InternalIdentifier	Shortened
InlinedPrmAccess	Literals
ReqsInCode	off
UseSimReservedNames	off
ReservedNameArray	

Table 5.12. cdnlink_dns Configuration
Set.Components(8).Components [217](2)

Property	Value
----------	-------

Name	Target
Description	
Components	
IsERTTarget	off
TargetFcnLib	ansi_tfl_table_tmw.mat
TargetLibSuffix	
TargetPreCompLibLocation	
GenFloatMathFcnCalls	NOT IN USE
TargetLangStandard	C89/C90 (ANSI)
TargetFunctionLibrary	NOT IN USE
CodeReplacementLibrary	None
UtilityFuncGeneration	Auto
ERTMultiwordTypeDef	System defined
ERTMultiwordLength	256
MultiwordLength	2048
GenerateFullHeader	on
GenerateSampleERTMain	off
GenerateTestInterfaces	off
ModelReferenceCompliant	on
ParMdlRefBuildCompliant	on
CompOptLevelCompliant	on
ConcurrentExecutionCompliant	on
IncludeMdlTerminateFcn	on
GeneratePreprocessorConditionals	Disable all
CombineOutputUpdateFcns	on
CombineSignalStateStructs	off
SuppressErrorStatus	off
ERTFirstTimeCompliant	off
IncludeFileDelimiter	Auto
ERTCustomFileBanners	off
SupportAbsoluteTime	on
LogVarNameModifier	rt_
MatFileLogging	on
MultiInstanceERTCode	off
CodeInterfacePackaging	Nonreusable function
SupportNonFinite	on
SupportComplex	on
PurelyIntegerCode	off
SupportContinuousTime	on

SupportNonInlinedSFcns	on
SupportVariableSizeSignals	off
ParenthesesLevel	Nominal
GenerateClassInterface	off
ModelStepFunctionPrototypeControlCompliant	off
CPPClassGenCompliant	on
AutosarCompliant	off
GRTInterface	off
GenerateAllocFcn	off
UseToolchainInfoCompliant	on
ExtMode	off
ExtModeStaticAlloc	off
ExtModeTesting	off
ExtModeStaticAllocSize	1000000
ExtModeTransport	0
ExtModeMexFile	ext_comm
ExtModeMexArgs	
ExtModeIntrfLevel	Level1
RTWCAPISignals	off
RTWCAPIParams	off
RTWCAPISates	off
RTWCAPIRootIO	off
GenerateASAP2	off
MultiInstanceErrorCode	Error

Chapter 6. Glossary

Atomic Subsystem. A subsystem treated as a unit by an implementation of the design documented in this report. The implementation computes the outputs of all the blocks in the atomic subsystem before computing the next block in the parent system's block execution order (sorted list).

Block Diagram. A Simulink block diagram represents a set of simultaneous equations that relate a system or subsystem's inputs to its outputs as a function of time. Each block in the diagram represents an equation of the form $y = f(t, x, u)$ where t is the current time, u is a block input, y is a block output, and x is a system state (see the Simulink documentation for information on the functions represented by the various types of blocks that make up the diagram). Lines connecting the blocks represent dependencies among the blocks, i.e., inputs whose current values are the outputs of other blocks. An implementation of a design described in this document computes a root or atomic system's outputs at each time step by computing the outputs of the blocks in an order determined by block input/output dependencies.

Block Parameter. A variable that determines the output of a block along with its inputs, for example, the gain parameter of a Gain block.

Block Execution Order. The order in which Simulink evaluates blocks during simulation of a model. The block execution order determined by Simulink ensures that a block executes only after all blocks on whose outputs it depends are executed.

Checksum. A number that indicates whether different versions of a model or atomic subsystem differ functionally or only cosmetically. Different checksums for different versions of the same model or subsystem indicate that the versions differ functionally.

Design Variable. A symbolic (MATLAB) variable or expression used as the value of a block parameter. Design variables allow the behavior of the model to be altered by altering the value of the design variable.

Signal. A block output, so-called because block outputs typically vary with time.

Virtual Subsystem. A subsystem that is purely graphical, i.e., is intended to reduce the visual complexity of the block diagram of which it is a subsystem. An implementation of the design treats the blocks in the subsystem as part of the first nonvirtual ancestor of the virtual subsystem (see Atomic Subsystem).

Chapter 7. About this Report

Table of Contents

7.1. Report Overview	222
7.2. Root System Description	222
7.3. Subsystem Descriptions	223
7.4. State Chart Descriptions	223

7.1. Report Overview

This report describes the design of the `cdnlink_dns` system. The report was generated automatically from a Simulink model used to validate the design. It contains the following sections:

Model Version. Specifies information about the version of the model from which this design description was generated. Includes the model checksum, a number that indicates whether different versions of the model differ functionally or only cosmetically. Different checksums for different versions indicate that the versions differ functionally.

Root System. Describes the design's root system.

Subsystems. Describes each of the design's subsystems.

Design Variables. Describes system design variables, i.e., MATLAB variables and expressions used as block parameter values.

System Model Configuration. Lists the configuration parameters, e.g., start and stop time, of the model used to simulate the system described by this report.

Requirements Traceability. Shows design requirements associated with elements of the design model. This section appears only if the design model contains requirements links.

Glossary. Defines Simulink terms used in this report.

7.2. Root System Description

This section describes a design's root system. It contains the following sections:

Diagram. Simulink block diagram that represents the algorithm used to compute the root system's outputs.

Description. Description of the root system. This section appears only if the model's root system has a Documentation property or a Doc block.

Interface. Name, data type, width, and other properties of the root system's input and output signals. The number of the block port that outputs the signal appears in angle brackets appended to the signal name. This section appears only if the root system has input or output ports.

Blocks. This section has two subsections:

- **Parameters.** Describes key parameters of blocks in the root system. This section also includes graphical and/or tabular representations of lookup table data used by lookup table blocks, i.e., blocks that use lookup tables to compute their outputs.

- **Block Execution Order.** Order in which blocks must be executed at each time step in order to ensure that each block's inputs are available when it executes.

State Charts. Describes state charts used in the root system. This section appears only if the root system contains Stateflow blocks.

7.3. Subsystem Descriptions

This section describes a design's subsystems. Each subsystem description contains the following sections:

Checksum. This section appears only if the subsystem is an atomic subsystem. The checksum indicates whether the version of the model subsystem used to generate this report differs functionally from other versions of the model subsystem. If two model checksums differ, the corresponding versions of the model differ functionally.

Diagram. Simulink block diagram that graphically represents the algorithm used to compute the subsystem's outputs.

Description. Description of the subsystem. This section appears only if the subsystem has a Documentation property or contains a Doc block.

Interface. Name, data type, width, and other properties of the subsystem's input and output signals. The number of the block port that outputs the signal appears in angle brackets appended to the signal name. This section appears only if the subsystem is atomic and has input or output ports.

Blocks. Blocks that this subsystem contains. This section has two subsections:

- **Parameters.** Key parameters of blocks in the subsystem. This section also includes graphical and/or tabular representations of lookup table data used by lookup table blocks, blocks that use lookup tables to compute their outputs.
- **Block Execution Order.** Order in which the subsystem's blocks must be executed at each time step in order to ensure that each block's inputs are available when the block executes. This section appears only if the subsystem is atomic.

State Charts. Describes state charts used in the subsystem. This section appears only if the root system contains Stateflow blocks.

7.4. State Chart Descriptions

This section describes the state machines used by Stateflow blocks to compute their outputs, i.e., Stateflow blocks. Each state machine description contains the following sections:

Chart. Diagram representing the state machine.

States. Describes the state machine's states. Each state description includes the state's diagram and diagrams and/or descriptions of graphical functions, Simulink functions, truth tables, and MATLAB functions parented by the state.

Transitions. Transitions between the state machine's states. Each transition description specifies the values of key transition properties. Appears only if a transition has properties that do not appear on the chart.

Junctions. Transition junctions. Each junction description specifies the values of key junction properties. Appears only if a junction has properties that do not appear on the chart.

Events. Events that trigger state transitions. Each event description specifies the values of key event properties.

Data. Data types and other properties of the Stateflow block's inputs, outputs, and other state machine data.

Targets. Executable implementations of the state machine used to compute the outputs of the corresponding Stateflow block.

MATLAB Supporting Functions. List of functions invoked by MATLAB functions defined in the chart.