Resources on AWS

Steps to retrieve FPGA designs' resources

- **Step 1.** Connect to a remote development instance (z1d.2xlarge).

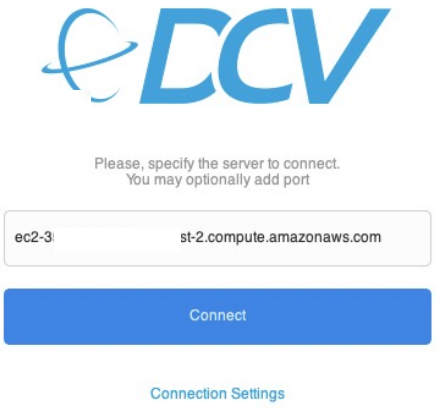
Refer to ./documents/FPGA-designs.pdf for a guide on how to do it.

- **Step 2.** Transfer the ./I_estimation_results/resources/xrt_*.run_summary files from your terminal to the remote development instance (z1d.2xlarge). If you are using Visual Studio Code, you can drag and drop these files directly into the appropriate folder on the remote instance you are connected to.

- **Step 3. Launch a NICE DCV Remote Desktop session (next slide)**

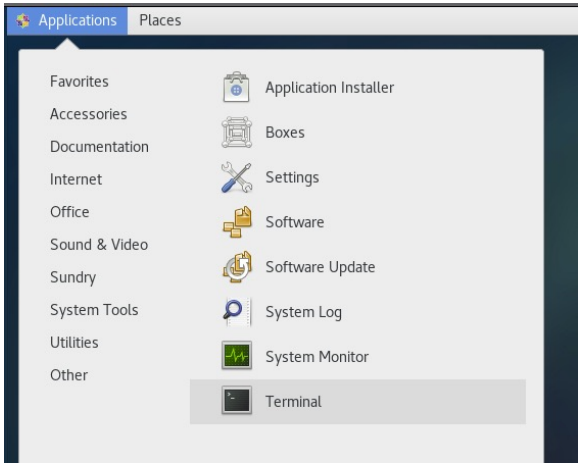
Start NICE DCV Remote Desktop Session

1. Install the remote desktop manager NICE DCV in your computer and in your development instance, z1d.2xlarge. See instruction here and here.
2. Launch a DCV session from the terminal of your development instance, `z1d.2xlarge` `dcv create-session centos`
3. Launch the NICE DCV app on your computer
   - To log-in: put the Public ip address of your AWS instance (left)
   - As username use Centos. As password use the password you set up at step 1 (right).

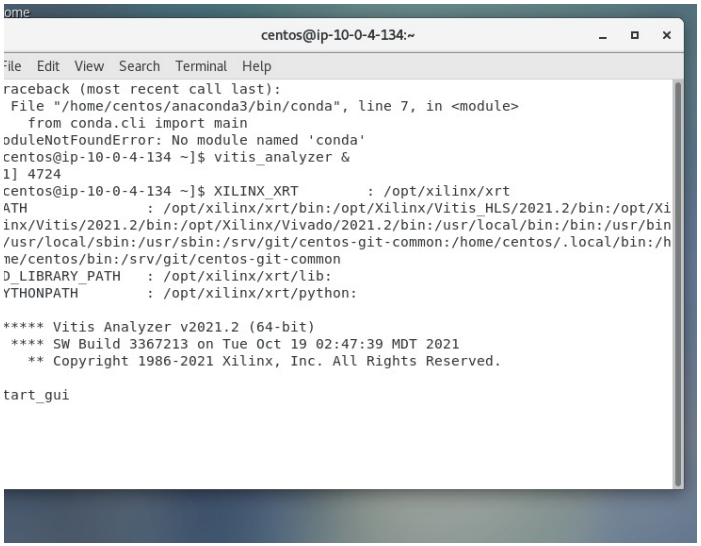


Launch Vitis Analyzer

1.In the NICE DCV Remote Desktop, Open the terminal: ***Applications > System Tools > Terminal***



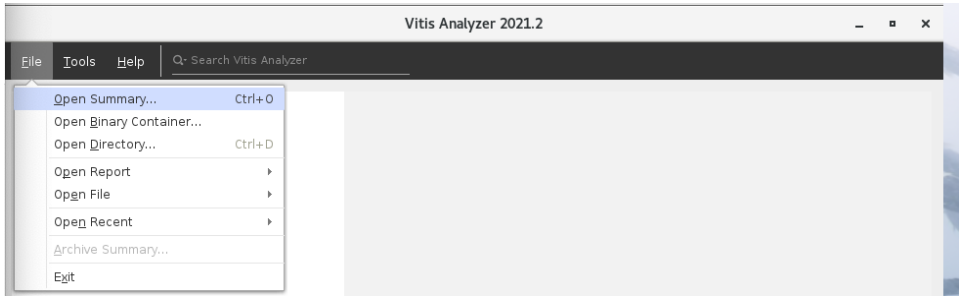
2. Type `vitis_analyzer &` to launch the Vitis Analyzer app

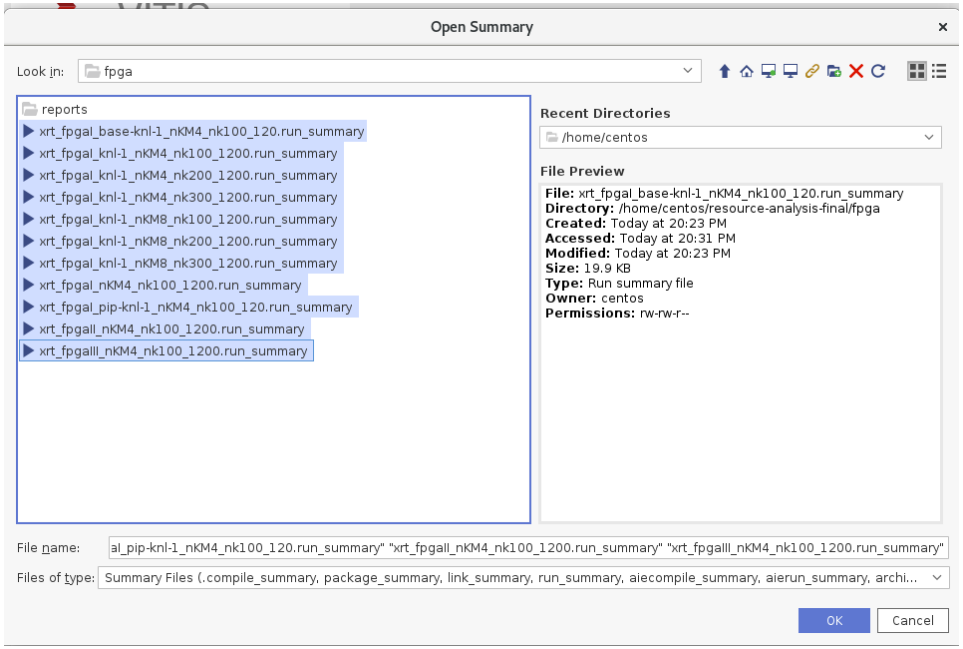


Vitis Analyzer

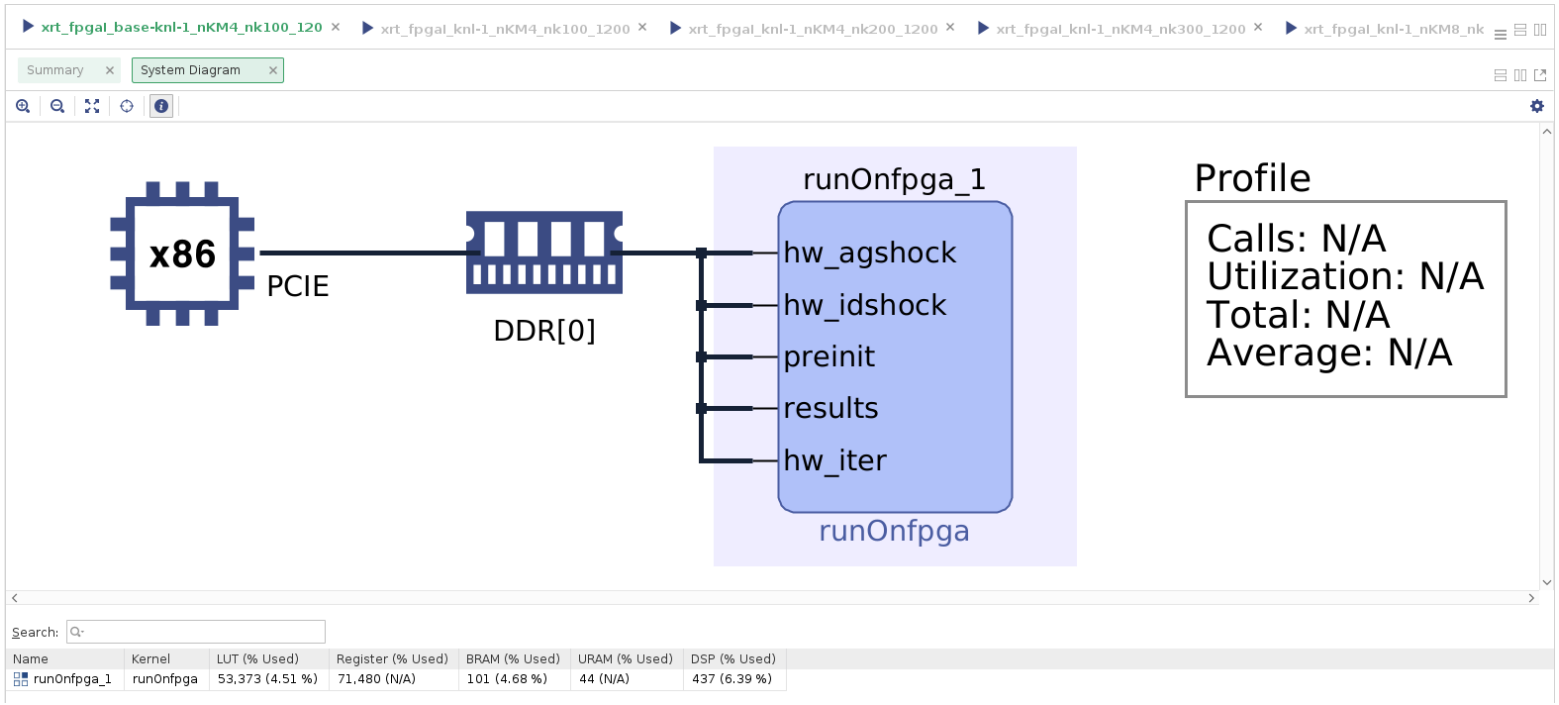
Analyse the Reports

1. In the Vitis analyzer, File > Open Summary
2. Collect the reports

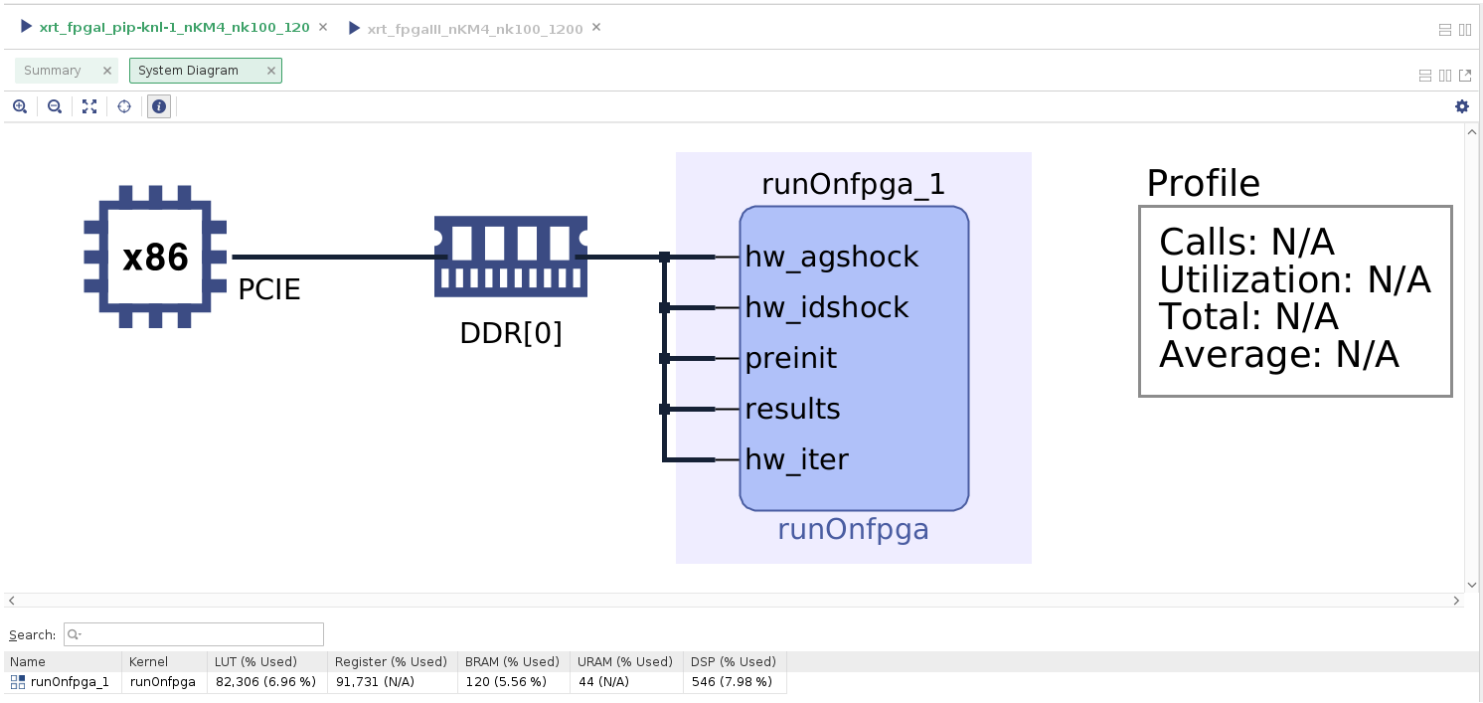




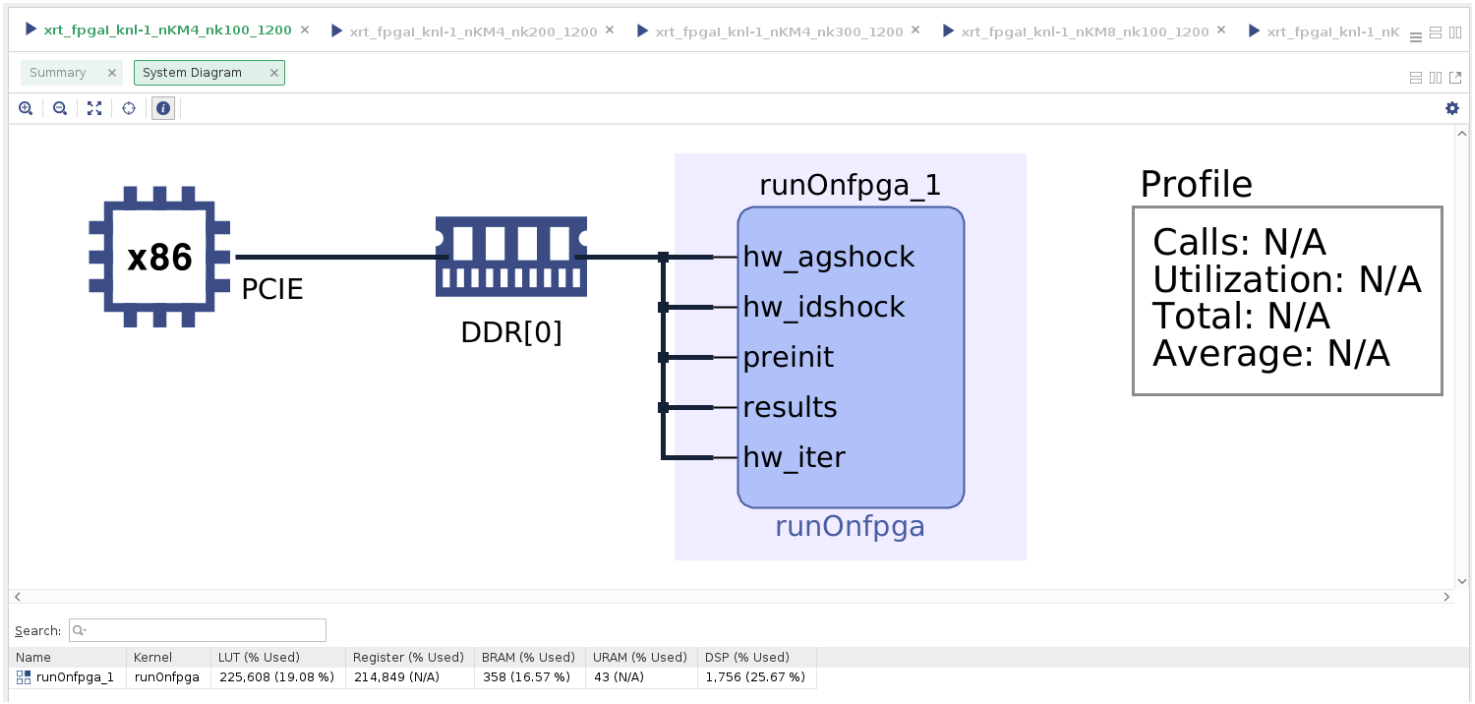
baseline


xrt_fpgal_base-knl-1_nKM4_nk100_120
xrt_fpgal_knl-1_nKM4_nk100_1200
xrt_fpgal_knl-1_nKM4_nk200_1200
xrt_fpgal_knl-1_nKM4_nk300_1200
xrt_fpgal_knl-1_nKM8_nk
Summary
System Diagram
x86
PCIE
DDR[0]
runOnfpga_1
hw_agshock
hw_idshock
preinit
results
hw_iter
runOnfpga
Profile
Calls: N/A
Utilization: N/A
Total: N/A
Average: N/A
Search:
Name
Kernel
LUT (% Used)
Register (% Used)
BRAM (% Used)
URAM (% Used)
DSP (% Used)
runOnfpga_1
runOnfpga
53,373 (4.51 %)
71,480 (N/A)
101 (4.68 %)
44 (N/A)
437 (6.39 %)

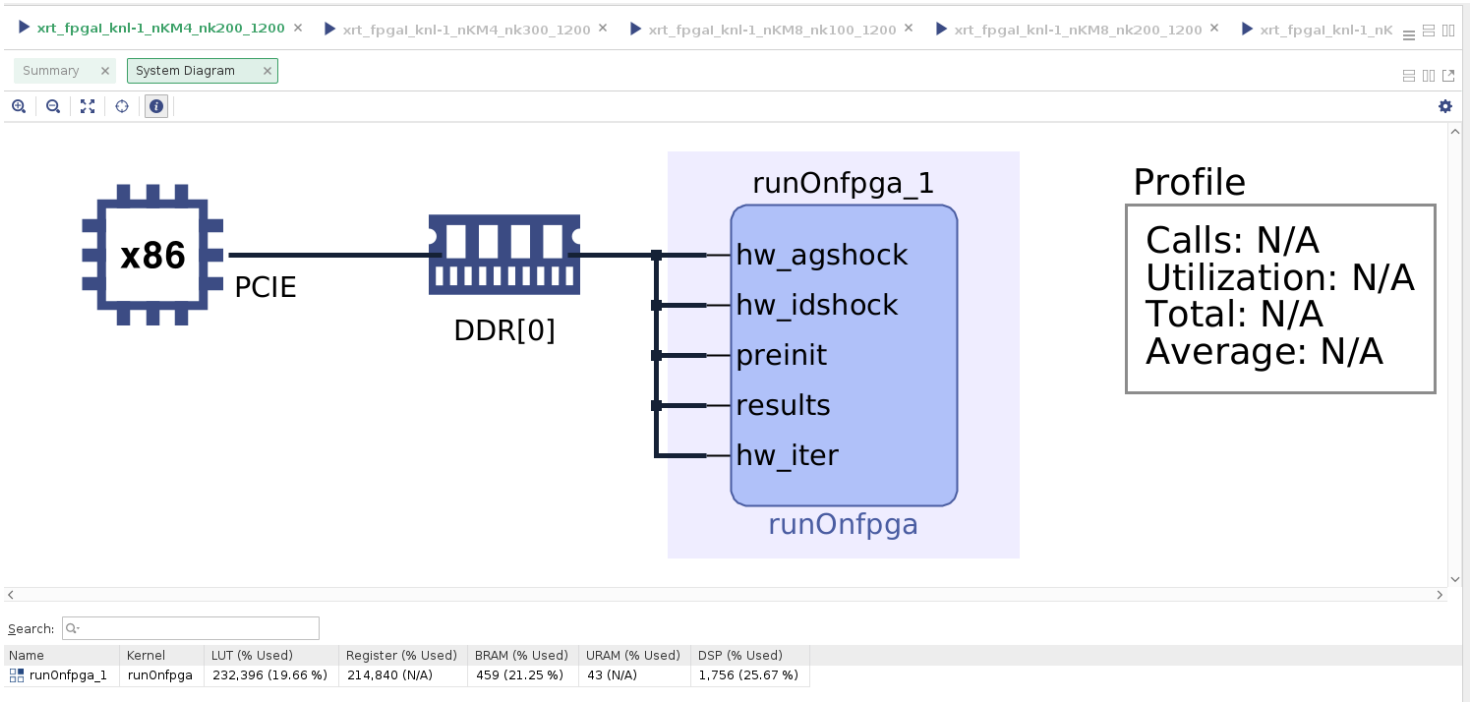
Knl-pipeline-100-4



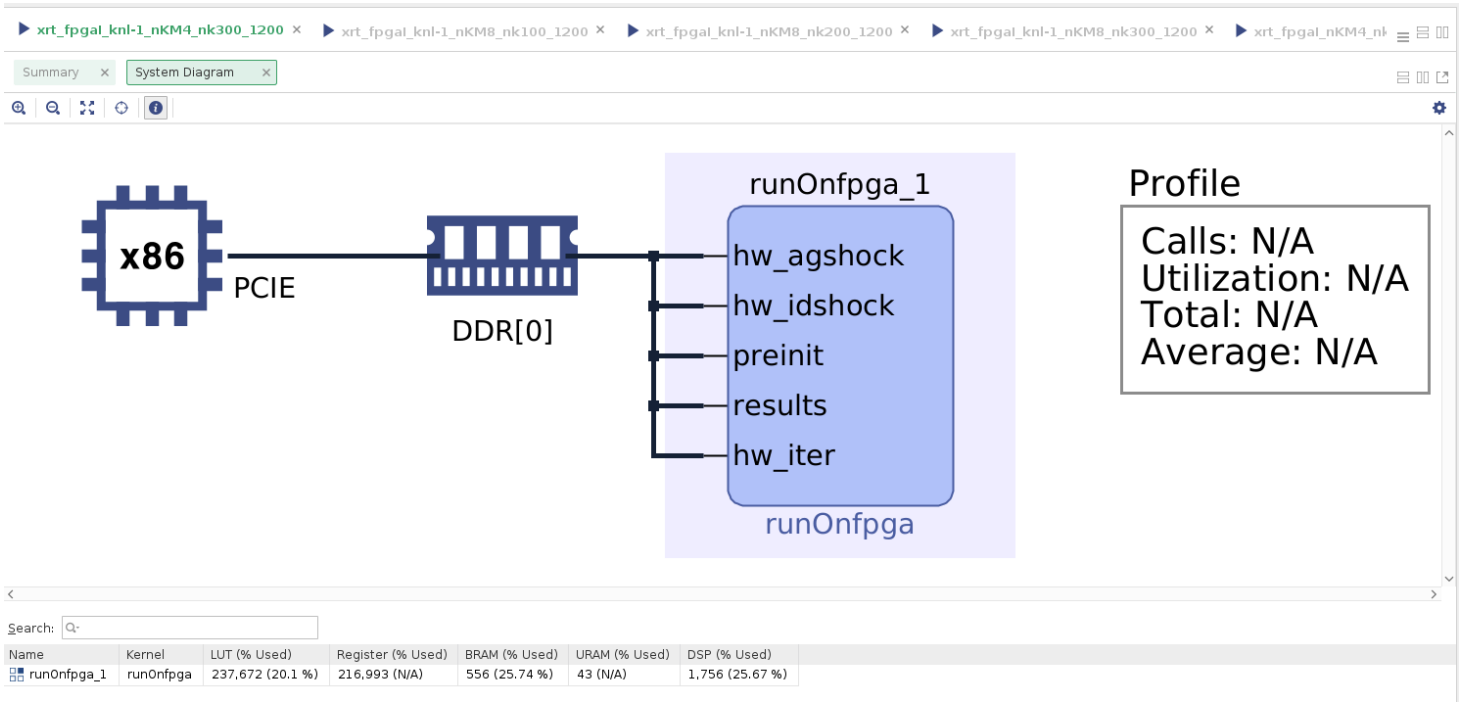
Kni-100-4


xrt_fpgal_knl-1_nKM4_nk100_1200
xrt_fpgal_knl-1_nKM4_nk200_1200
xrt_fpgal_knl-1_nKM4_nk300_1200
xrt_fpgal_knl-1_nKM8_nk100_1200
xrt_fpgal_knl-1_nK
Summary
System Diagram
x86
PCIE
DDR[0]
runOnfpga_1
hw_agshock
hw_idshock
preinit
results
hw_iter
runOnfpga
Profile
Calls: N/A
Utilization: N/A
Total: N/A
Average: N/A
Search:
Name
Kernel
LUT (% Used)
Register (% Used)
BRAM (% Used)
URAM (% Used)
DSP (% Used)
runOnfpga_1
runOnfpga
225,608 (19.08 %)
214,849 (N/A)
358 (16.57 %)
43 (N/A)
1,756 (25.67 %)

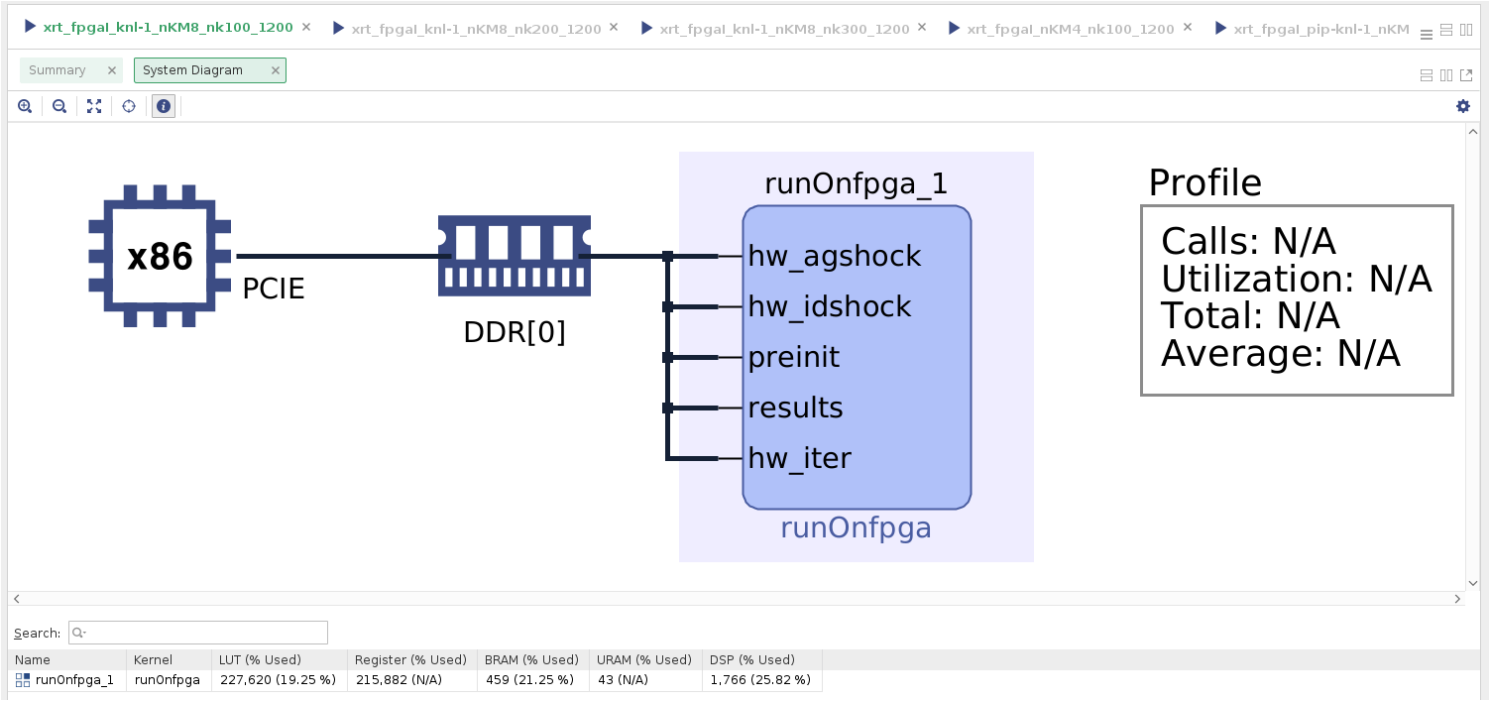
knl-200-4


xrt_fpgal_knl-1_nKM4_nk200_1200
xrt_fpgal_knl-1_nKM4_nk300_1200
xrt_fpgal_knl-1_nKM8_nk100_1200
xrt_fpgal_knl-1_nKM8_nk200_1200
xrt_fpgal_knl-1_nK
Summary
System Diagram
x86
PCIE
DDR[0]
runOnfpga_1
hw_agshock
hw_idshock
preinit
results
hw_iter
runOnfpga
Profile
Calls: N/A
Utilization: N/A
Total: N/A
Average: N/A
Search:
Name
Kernel
LUT (% Used)
Register (% Used)
BRAM (% Used)
URAM (% Used)
DSP (% Used)
runOnfpga_1
runOnfpga
232,396 (19.66 %)
214,840 (N/A)
459 (21.25 %)
43 (N/A)
1,756 (25.67 %)

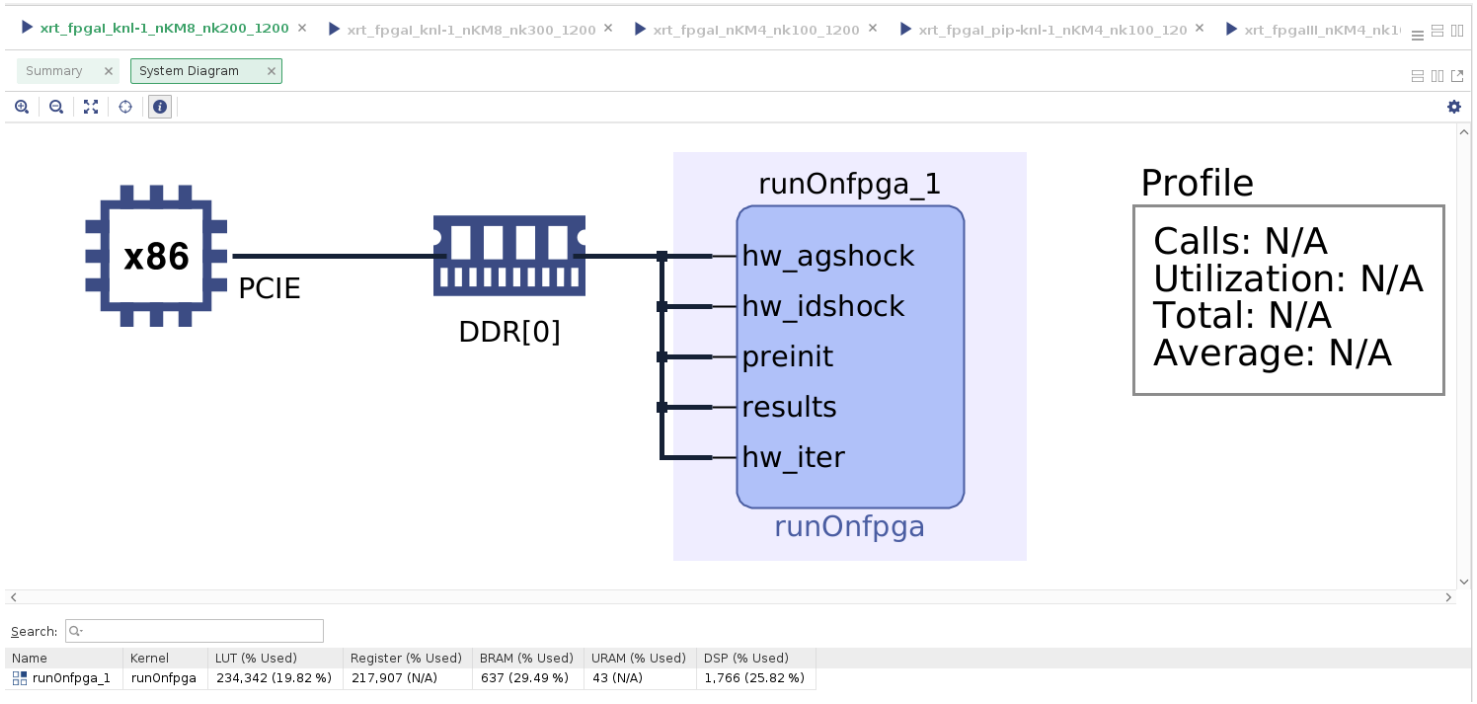
knl-300-4


xrt_fpgal_knl-1_nKM4_nk300_1200
xrt_fpgal_knl-1_nKM8_nk100_1200
xrt_fpgal_knl-1_nKM8_nk200_1200
xrt_fpgal_knl-1_nKM8_nk300_1200
Summary
System Diagram
x86
PCIE
DDR[0]
runOnfpga_1
hw_agshock
hw_idshock
preinit
results
hw_iter
runOnfpga
Profile
Calls: N/A
Utilization: N/A
Total: N/A
Average: N/A
Search:
Name
Kernel
LUT (% Used)
Register (% Used)
BRAM (% Used)
URAM (% Used)
DSP (% Used)
runOnfpga_1
runOnfpga
237,672 (20.1 %)
216,993 (N/A)
556 (25.74 %)
43 (N/A)
1,756 (25.67 %)

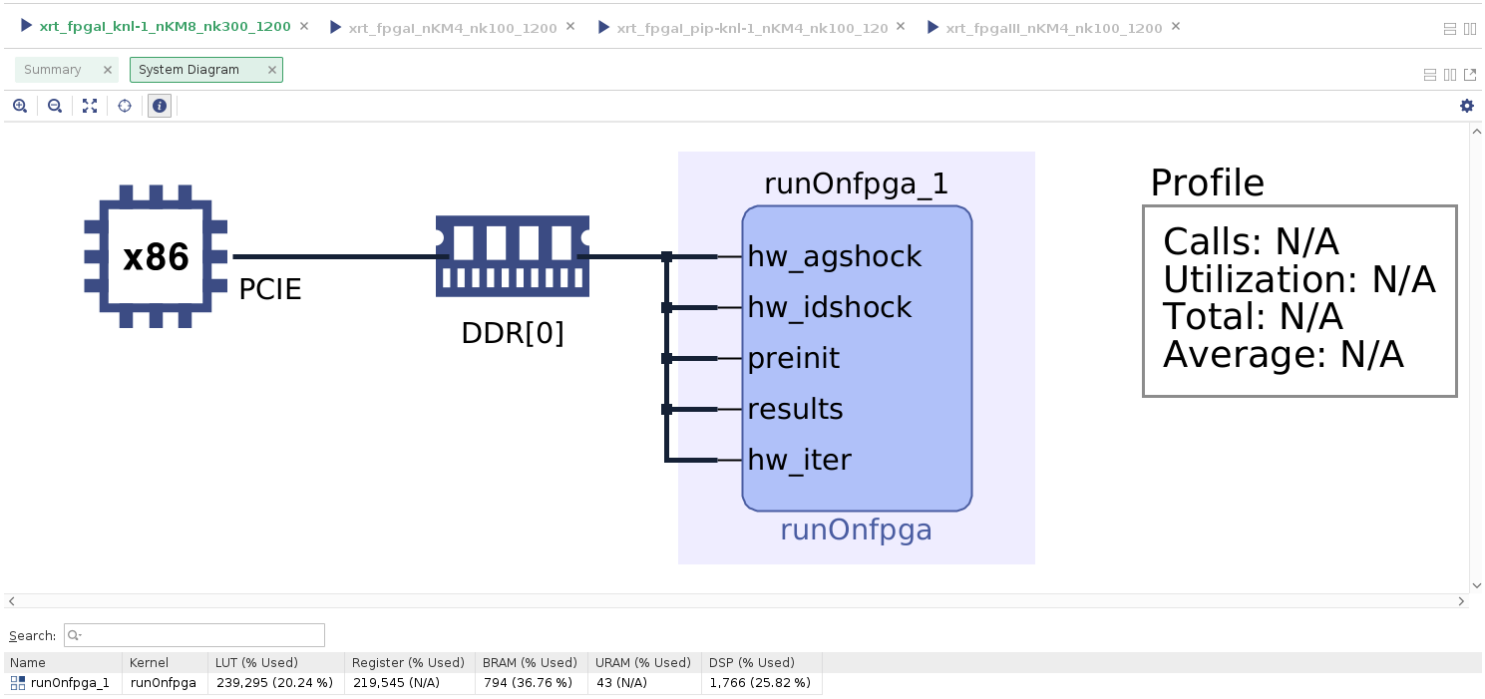
KnI-100-8


xrt_fpgal_knl-1_nKM8_nk100_1200
xrt_fpgal_knl-1_nKM8_nk200_1200
xrt_fpgal_knl-1_nKM8_nk300_1200
xrt_fpgal_nKM4_nk100_1200
xrt_fpgal_pip-knl-1_nKM
Summary
System Diagram
x86
PCIE
DDR[0]
runOnfpga_1
hw_agshock
hw_idshock
preinit
results
hw_iter
runOnfpga
Profile
Calls: N/A
Utilization: N/A
Total: N/A
Average: N/A
Search:
Name
Kernel
LUT (% Used)
Register (% Used)
BRAM (% Used)
URAM (% Used)
DSP (% Used)
runOnfpga_1
runOnfpga
227,620 (19.25 %)
215,882 (N/A)
459 (21.25 %)
43 (N/A)
1,766 (25.82 %)

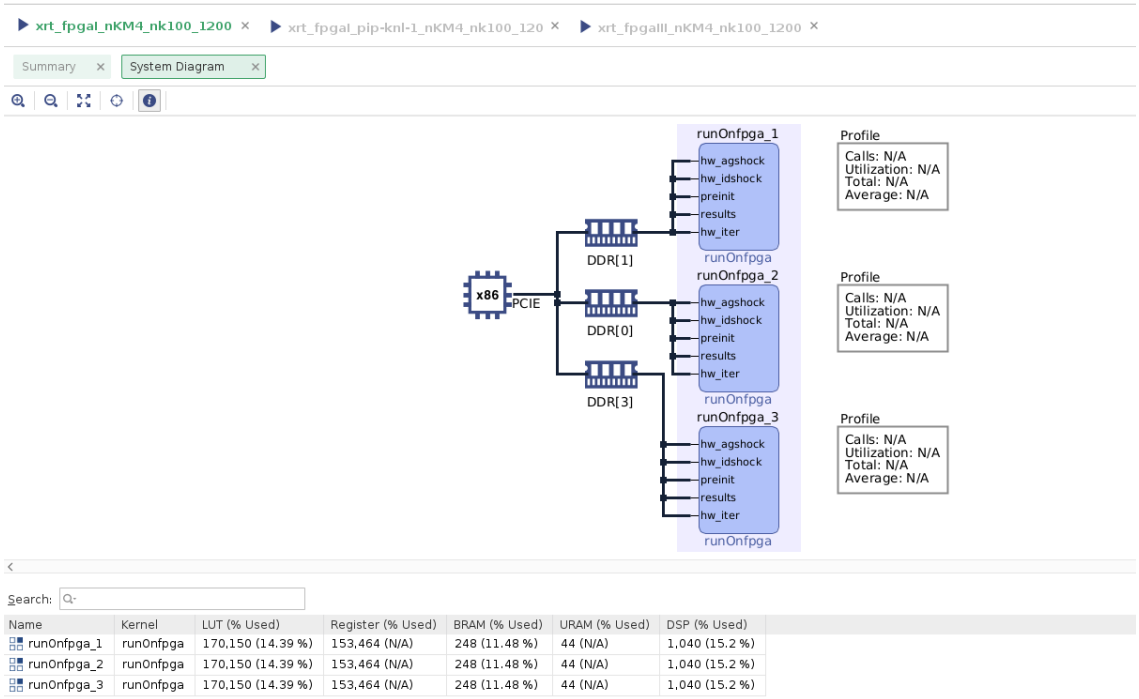
KnI-200-8


xrt_fpgaI_knl-1_nKM8_nk200_1200
xrt_fpgaI_knl-1_nKM8_nk300_1200
xrt_fpgaI_nKM4_nk100_1200
xrt_fpgaI_pip-knl-1_nKM4_nk100_120
Summary
System Diagram
x86
PCIE
DDR[0]
runOnfpga_1
hw_agshock
hw_idshock
preinit
results
hw_iter
runOnfpga
Profile
Calls: N/A
Utilization: N/A
Total: N/A
Average: N/A
Search:
Name
Kernel
LUT (% Used)
Register (% Used)
BRAM (% Used)
URAM (% Used)
DSP (% Used)
runOnfpga_1
runOnfpga
234,342 (19.82 %)
217,907 (N/A)
637 (29.49 %)
43 (N/A)
1,766 (25.82 %)

KnI-300-8


xrt_fpgaI_knl-1_nKM8_nk300_1200
xrt_fpgaI_nKM4_nk100_1200
xrt_fpgaI_pip-knl-1_nKM4_nk100_120
xrt_fpgaIII_nKM4_nk100_1200
Summary
System Diagram
x86
PCIE
DDR[0]
runOnfpga_1
hw_agshock
hw_idshock
preinit
results
hw_iter
runOnfpga
Profile
Calls: N/A
Utilization: N/A
Total: N/A
Average: N/A
Search:
Name
Kernel
LUT (% Used)
Register (% Used)
BRAM (% Used)
URAM (% Used)
DSP (% Used)
runOnfpga_1
runOnfpga
239,295 (20.24 %)
219,545 (N/A)
794 (36.76 %)
43 (N/A)
1,766 (25.82 %)

Kn3-100-4



Name	Kernel	LUT (% Used)	Register (% Used)	BRAM (% Used)	URAM (% Used)	DSP (% Used)
runOnfpga_1	runOnfpga	170,150 (14.39 %)	153,464 (N/A)	248 (11.48 %)	44 (N/A)	1,040 (15.2 %)
runOnfpga_2	runOnfpga	170,150 (14.39 %)	153,464 (N/A)	248 (11.48 %)	44 (N/A)	1,040 (15.2 %)
runOnfpga_3	runOnfpga	170,150 (14.39 %)	153,464 (N/A)	248 (11.48 %)	44 (N/A)	1,040 (15.2 %)