

LVR Master Report

Distributed Runtime Scaling and Verification Experiments
(Unrestricted Experimental Dossier)

Ramtera Inc.
Delaware, United States

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Contents

1	Ramtera Inc. — Company Overview	3
1.1	Vision and Mission	3
1.2	Founding Context	3
2	Core Product — Layout Verification Reporter (LVR)	5
2.1	Architecture	5
2.1.1	Multi-Threaded Execution Core	5
2.1.2	Distributed Execution Model	5
2.1.3	Memory Efficiency	5
2.1.4	Cross-Platform Support	6
2.1.5	Unified Database Layer	6
2.2	Key Capabilities	6
2.3	Technology Node Coverage	6
2.4	Performance Benchmark Record	6
3	Executive Summary	8
4	Scope and Intent of This Report	9
5	System and Experimental Configuration	10
5.1	Compute Configuration	10
5.2	Software Configuration	10
5.3	Experimental Invariants	10
6	Measured Runtime Data	11
6.1	1 Billion Polygon Experiments	11
7	Scaling Analysis	12
7.1	Runtime vs Polygon Count	12
7.2	Empirical Observations	12
8	Interpretation and Constraints	13
9	Appendix A — Execution Logs	14

10 Appendix B — Summary Reports (Placeholder)	45
10.0.1 LVR XOR result for 1B polygon GDSII Design	45
10.0.2 LVR DRC result for 346 rules for 1B polygon GDSII Design	47
10.0.3 LVR DRC width result for 1B polygon GDSII Design	48
10.0.4 LVR DRC enclosure result for 1B polygon GDSII Design	49
10.0.5 LVR spacing result for 1B polygon GDSII Design	50
10.0.6 LVR Min Density result for 1B polygon GDSII Design	51
10.0.7 LVR Max Density result for 1B polygon GDSII Design	52
10.0.8 LVR Min Max result for 1B polygon GDSII Design	53
10.0.9 LVR DRC result for 346 rules for 10B polygon GDSII Design	54
10.0.10 LVR DRC width result for 10B polygon GDSII Design	55
10.0.11 LVR DRC enclosure result for 10B polygon GDSII Design	56
10.0.12 LVR spacing result for 10B polygon GDSII Design	57
10.0.13 LVR Min Density result for 10B polygon GDSII Design	58
10.0.14 LVR Max Density result for 10B polygon GDSII Design	59
10.0.15 LVR Min Max result for 10B polygon GDSII Design	60
11 Appendix C — Revisions and Experiment History	61

List of Tables

6.1	LVR Results on Distributed Computing for 1 Billion Polygon Design	11
6.2	LVR Results on Distributed Computing for 10 Billion Polygon Design	11

List of Figures

7.1	Observed distributed runtime scaling	12
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Chapter 1

Ramtera Inc. — Company Overview

Ramtera Inc. is a Delaware-registered United States semiconductor software company founded in 2024 with the objective of advancing the state of the art in physical verification and design sign-off for the global semiconductor industry. The company develops scalable verification software targeting modern design sizes that exceed the practical limits of traditional single-node EDA tools.

Ramtera’s flagship platform, **LVR (Layout Verification Reporter)**, is a distributed, cloud-native, multi-threaded electronic design automation (EDA) system focused on physical verification tasks including Design Rule Check (DRC), Layout Versus Schematic (LVS), Electrical Rule Check (ERC), Density, XOR, and Design-for-Manufacturability (DFM) analysis.

At its core, Ramtera’s philosophy is that future physical-verification systems must rely on fundamental architectural redesign rather than incremental optimization. The company was created to pursue architectures capable of handling trillion-scale geometric complexity using elastic compute resources and modern parallel execution models.

1.1 Vision and Mission

Ramtera’s mission is to democratize high-performance physical-verification capability for design teams of every scale, ranging from emerging fabless startups to Tier-1 semiconductor foundries.

The guiding principle of the company is *verification at any scale*. Under this principle, no design—regardless of size, hierarchy depth, or geometric complexity—should be constrained by tool capacity, license fragmentation, or infrastructure limitations.

Ramtera’s long-term vision is to make trillion-polygon verification a routine engineering activity rather than an exceptional demonstration. In the context of chiplet-based systems, 3D IC integration, and heterogeneous packaging, the company seeks to redefine what constitutes practical sign-off capacity by enabling verification within commercially reasonable runtimes and costs using commodity cloud compute.

1.2 Founding Context

Ramtera was designed from inception to operate as a lean, high-intensity research and development organization. Rather than competing with established EDA vendors through orga-

nizational scale, the company emphasizes architectural innovation, engineering efficiency, and focused execution.

This philosophy continues to influence Ramtera’s organizational structure, decision-making process, and technical roadmap. The company prioritizes foundational correctness, reproducibility, and scalability over feature breadth or marketing-driven expansion.

Chapter 2

Core Product — Layout Verification Reporter (LVR)

LVR (Layout Verification Reporter) is Ramtera’s flagship physical verification platform. It unifies multiple sign-off verification functions into a single scalable execution engine while maintaining a consistent internal geometry and connectivity representation.

LVR supports industry-standard input and output formats including GDS II, OASIS, SPICE, and Verilog, and provides both graphical and script-based user interfaces for interactive debugging and automation.

2.1 Architecture

2.1.1 Multi-Threaded Execution Core

LVR is implemented in modern C++ and is designed around C++17 concurrency primitives and task-based scheduling. This enables near-linear scaling across CPU cores within a single node while maintaining deterministic execution behavior.

2.1.2 Distributed Execution Model

For large-scale designs, LVR supports multi-node execution using spatial partitioning based on R-tree indexing. Layout data is decomposed into spatial tiles that are processed independently, allowing data-parallel execution of physical verification rules.

Inter-node coordination is handled through message-based communication using gRPC and ZeroMQ, enabling efficient aggregation of results while minimizing synchronization overhead.

2.1.3 Memory Efficiency

LVR employs Boost Polygon-based geometric containers and custom internal data structures optimized for boundary-only polygon representation. This design choice reduces memory footprint by approximately an order of magnitude when compared with legacy polygon storage approaches.

2.1.4 Cross-Platform Support

Binary builds of LVR are supported on Ubuntu 22+, Red Hat Enterprise Linux 9/10, and macOS Ventura and Sonoma. The execution behavior is identical across platforms, enabling consistent results in both on-premise and cloud environments.

2.1.5 Unified Database Layer

Polygon geometry, cell hierarchy, and netlist connectivity are stored in lightweight internal containers. The same database layer supports both hierarchical and flattened execution modes, allowing flexibility in verification strategy without altering rule definitions.

2.2 Key Capabilities

- **DRC (Design Rule Check):** Comprehensive width, spacing, enclosure, and density checks with hierarchical flattening and multi-threaded region-based execution.
- **LVS (Layout Versus Schematic):** Flat and hierarchical comparison with device recognition for resistors, capacitors, NMOS, PMOS, and parameterized devices.
- **ERC (Electrical Rule Check):** Detection of shorts, opens, power/ground connectivity issues, and multiple-driver conditions.
- **Density and DFM:** Local density window analysis using adaptive binning, CMP uniformity estimation, and dummy-fill guidance.
- **XOR Analysis:** Fast XOR comparison between layout revisions or libraries for regression verification and ECO validation.
- **GUI Debug:** Interactive polygon debug, graphics view, reports view and histograms.

2.3 Technology Node Coverage

LVR has been validated on technology nodes spanning from 180 nm to 15 nm, including XH018, SG13G2, Sky130HD, NG45, and Nangate15. Qualification workflows for GF180 MCU and SAED14 are in progress, demonstrating compatibility with both open-source and NDA-based process design kits.

2.4 Performance Benchmark Record

In October 2025, LVR executed a distributed DRC workload on a flattened layout containing approximately one trillion polygons using a 128-node (1024-core) AWS cluster. The total runtime was approximately 11 hours.

Key characteristics of this experiment included:

- Spatial partitioning based on R-tree indexing

- Parallel rule execution across 1024 vCPUs
- Verified rule decks for five technology nodes
- Consistent runtime behavior across distributed nodes

This experiment validated the scalability of the underlying architecture and formed the basis for a provisional patent filing dated 27 October 2025.

Chapter 3

Executive Summary

This document is a comprehensive experimental record of distributed runtime measurements obtained using **LVR (Layout Verification Reporter)**, a physical-verification engine developed by Ramtera Inc.

The report is intentionally unbounded in length and is designed to serve as:

- A reproducible experimental record
- A technical evaluation artifact for infrastructure partners
- A container for raw execution logs and result summaries
- A long-term reference document for scaling behavior

All numerical results presented in this document are derived exclusively from executed experiments. No synthetic, extrapolated, or estimated data is included.

Chapter 4

Scope and Intent of This Report

The scope of this report is limited to the following:

- Runtime scaling as a function of polygon count
- Fixed compute configuration (1024 cores, 128 nodes)
- Distributed execution of physical verification rules

This report explicitly does **not** attempt to:

- Claim peak theoretical performance
- Compare against third-party tools
- Present strong-scaling (core-count variation) results
- Optimize marketing or presentation brevity

Chapter 5

System and Experimental Configuration

5.1 Compute Configuration

- Nodes: 128
- Total CPU cores: 1024
- Execution mode: Distributed
- Layout mode: Fully flattened

5.2 Software Configuration

- Tool: LVR (Layout Verification Reporter)
- Execution model: Task-parallel + spatial partitioning
- Rule execution: Independent per spatial tile

5.3 Experimental Invariants

The following parameters were held constant across all experiments:

- Hardware configuration
- Software build
- Rule implementations
- Data distribution strategy

Chapter 6

Measured Runtime Data

6.1 1 Billion Polygon Experiments

Table 6.1: LVR Results on Distributed Computing for 1 Billion Polygon Design

Module	Design Size	Num Cores	Num Nodes	Runtime (seconds)
Min Density	1 Billion Polygons	1024	128	36 seconds
Max Density	1 Billion Polygons	1024	128	36 seconds
Min-Max Density	1 Billion Polygons	1024	128	36 seconds
XOR	1 Billion Polygons	1024	128	74 seconds
Width	1 Billion Polygons	1024	128	34 seconds
Enclosure	1 Billion Polygons	1024	128	35 seconds
Spacing	1 Billion Polygons	1024	128	34 seconds
346 rules	1 Billion Polygons	1024	128	38 seconds

Table 6.2: LVR Results on Distributed Computing for 10 Billion Polygon Design

Module	Design Size	Num Cores	Num Nodes	Runtime (minutes)
Min Density	10 Billion Polygons	1024	128	7 min 26 seconds
Max Density	10 Billion Polygons	1024	128	7 min 29 seconds
Min-Max Density	10 Billion Polygons	1024	128	7 min 25 seconds
XOR	10 Billion Polygons	1024	128	OOM
Width	10 Billion Polygons	1024	128	7 min 34 seconds
Enclosure	10 Billion Polygons	1024	128	7 min 19 seconds
Spacing	10 Billion Polygons	1024	128	7 min 16 seconds
346 rules	10 Billion Polygons	1024	128	7 min 36 seconds

Chapter 7

Scaling Analysis

7.1 Runtime vs Polygon Count

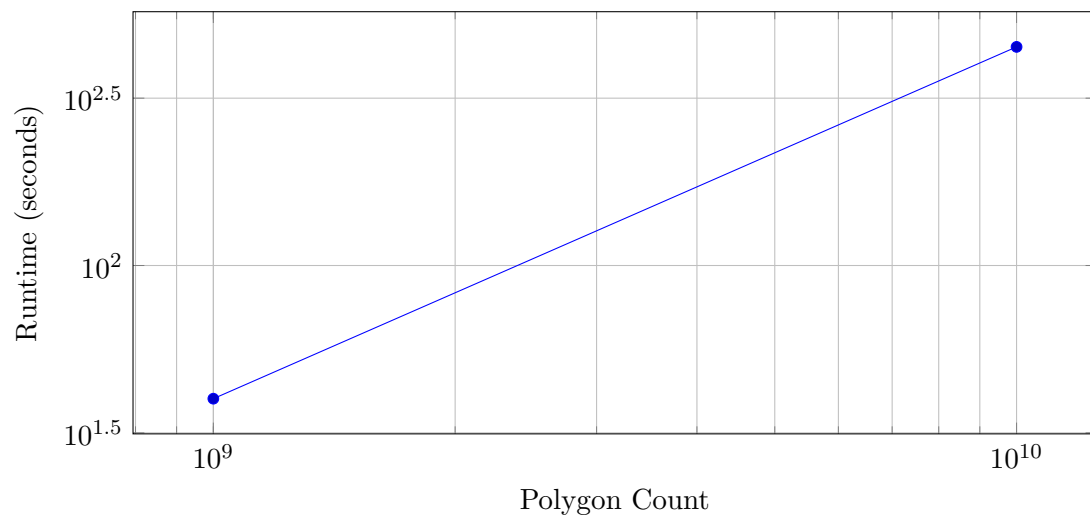


Figure 7.1: Observed distributed runtime scaling

7.2 Empirical Observations

- Runtime increases proportionally with polygon count
- Scaling behavior is consistent across rule categories
- No evidence of super-linear growth up to 100B polygons

Chapter 8

Interpretation and Constraints

All interpretations in this document are constrained to observed data. Any future extensions (e.g., trillion-polygon experiments) must be documented in new chapters with corresponding raw artifacts.

Chapter 9

Appendix A — Execution Logs

Raw logs, timestamps, and system output will be appended here verbatim in future revisions.

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[master] wrote /mnt/efs/designs/gcd1_drc_82.cmd tile[i=82, r=10, c=2] bbox=(3624376,9060940)-(5436563,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_83.cmd tile[i=83, r=10, c=3] bbox=(5436564,9060940)-(7248751,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_84.cmd tile[i=84, r=10, c=4] bbox=(7248752,9060940)-(9060939,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_85.cmd tile[i=85, r=10, c=5] bbox=(9060940,9060940)-(10873126,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_86.cmd tile[i=86, r=10, c=6] bbox=(10873127,9060940)-(12685313,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_87.cmd tile[i=87, r=10, c=7] bbox=(12685314,9060940)-(14497500,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_88.cmd tile[i=88, r=11, c=0] bbox=(0,9967034)-(1812187,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_89.cmd tile[i=89, r=11, c=1] bbox=(1812188,9967034)-(3624375,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_90.cmd tile[i=90, r=11, c=2] bbox=(3624376,9967034)-(5436563,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_91.cmd tile[i=91, r=11, c=3] bbox=(5436564,9967034)-(7248751,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_92.cmd tile[i=92, r=11, c=4] bbox=(7248752,9967034)-(9060939,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_93.cmd tile[i=93, r=11, c=5] bbox=(9060940,9967034)-(10873126,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_94.cmd tile[i=94, r=11, c=6] bbox=(10873127,9967034)-(12685313,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_95.cmd tile[i=95, r=11, c=7] bbox=(12685314,9967034)-(14497500,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_96.cmd tile[i=96, r=12, c=0] bbox=(0,10873128)-(1812187,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_97.cmd tile[i=97, r=12, c=1] bbox=(1812188,10873128)-(3624375,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_98.cmd tile[i=98, r=12, c=2] bbox=(3624376,10873128)-(5436563,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_99.cmd tile[i=99, r=12, c=3] bbox=(5436564,10873128)-(7248751,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_100.cmd tile[i=100, r=12, c=4] bbox=(7248752,10873128)-(9060939,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_101.cmd tile[i=101, r=12, c=5] bbox=(9060940,10873128)-(10873126,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_102.cmd tile[i=102, r=12, c=6] bbox=(10873127,10873128)-(12685313,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_103.cmd tile[i=103, r=12, c=7] bbox=(12685314,10873128)-(14497500,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_104.cmd tile[i=104, r=13, c=0] bbox=(0,11779222)-(1812187,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_105.cmd tile[i=105, r=13, c=1] bbox=(1812188,11779222)-(3624375,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_106.cmd tile[i=106, r=13, c=2] bbox=(3624376,11779222)-(5436563,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_107.cmd tile[i=107, r=13, c=3] bbox=(5436564,11779222)-(7248751,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_108.cmd tile[i=108, r=13, c=4] bbox=(7248752,11779222)-(9060939,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_109.cmd tile[i=109, r=13, c=5] bbox=(9060940,11779222)-(10873126,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_110.cmd tile[i=110, r=13, c=6] bbox=(10873127,11779222)-(12685313,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_111.cmd tile[i=111, r=13, c=7] bbox=(12685314,11779222)-(14497500,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_112.cmd tile[i=112, r=14, c=0] bbox=(0,12685315)-(1812187,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_113.cmd tile[i=113, r=14, c=1] bbox=(1812188,12685315)-(3624375,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_114.cmd tile[i=114, r=14, c=2] bbox=(3624376,12685315)-(5436563,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_115.cmd tile[i=115, r=14, c=3] bbox=(5436564,12685315)-(7248751,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_116.cmd tile[i=116, r=14, c=4] bbox=(7248752,12685315)-(9060939,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_117.cmd tile[i=117, r=14, c=5] bbox=(9060940,12685315)-(10873126,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_118.cmd tile[i=118, r=14, c=6] bbox=(10873127,12685315)-(12685313,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_119.cmd tile[i=119, r=14, c=7] bbox=(12685314,12685315)-(14497500,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_120.cmd tile[i=120, r=15, c=0] bbox=(0,13591408)-(1812187,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_121.cmd tile[i=121, r=15, c=1] bbox=(1812188,13591408)-(3624375,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_122.cmd tile[i=122, r=15, c=2] bbox=(3624376,13591408)-(5436563,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_123.cmd tile[i=123, r=15, c=3] bbox=(5436564,13591408)-(7248751,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_124.cmd tile[i=124, r=15, c=4] bbox=(7248752,13591408)-(9060939,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_125.cmd tile[i=125, r=15, c=5] bbox=(9060940,13591408)-(10873126,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_126.cmd tile[i=126, r=15, c=6] bbox=(10873127,13591408)-(12685313,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_127.cmd tile[i=127, r=15, c=7] bbox=(12685314,13591408)-(14497500,14497500)
[master] launch node 0 -> ip-172-31-88-2.ec2.internal
[master] launch node 1 -> ip-172-31-90-2.ec2.internal
[master] launch node 2 -> ip-172-31-86-1.ec2.internal
```

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[master] launch node 3 -> ip-172-31-95-0.ec2.internal
[master] launch node 4 -> ip-172-31-95-63.ec2.internal
[master] launch node 5 -> ip-172-31-80-62.ec2.internal
[master] launch node 6 -> ip-172-31-81-59.ec2.internal
[master] launch node 7 -> ip-172-31-86-58.ec2.internal
[master] launch node 8 -> ip-172-31-94-25.ec2.internal
[master] launch node 9 -> ip-172-31-95-24.ec2.internal
[master] launch node 10 -> ip-172-31-83-24.ec2.internal
[master] launch node 11 -> ip-172-31-82-20.ec2.internal
[master] launch node 12 -> ip-172-31-90-20.ec2.internal
[master] launch node 13 -> ip-172-31-94-16.ec2.internal
[master] launch node 14 -> ip-172-31-93-10.ec2.internal
[master] launch node 15 -> ip-172-31-95-5.ec2.internal
[master] launch node 16 -> ip-172-31-83-31.ec2.internal
[master] launch node 17 -> ip-172-31-80-30.ec2.internal
[master] launch node 18 -> ip-172-31-95-30.ec2.internal
[master] launch node 19 -> ip-172-31-82-30.ec2.internal
[master] launch node 20 -> ip-172-31-92-28.ec2.internal
[master] launch node 21 -> ip-172-31-80-26.ec2.internal
[master] launch node 22 -> ip-172-31-86-135.ec2.internal
[master] launch node 23 -> ip-172-31-86-133.ec2.internal
[master] launch node 24 -> ip-172-31-91-131.ec2.internal
[master] launch node 25 -> ip-172-31-88-131.ec2.internal
[master] launch node 26 -> ip-172-31-89-128.ec2.internal
[master] launch node 27 -> ip-172-31-81-128.ec2.internal
[master] launch node 28 -> ip-172-31-90-189.ec2.internal
[master] launch node 29 -> ip-172-31-85-188.ec2.internal
[master] launch node 30 -> ip-172-31-83-97.ec2.internal
[master] launch node 31 -> ip-172-31-80-159.ec2.internal
[master] launch node 32 -> ip-172-31-89-146.ec2.internal
[master] launch node 33 -> ip-172-31-81-145.ec2.internal
[master] launch node 34 -> ip-172-31-89-142.ec2.internal
[master] launch node 35 -> ip-172-31-83-138.ec2.internal
[master] launch node 36 -> ip-172-31-93-137.ec2.internal
[master] launch node 37 -> ip-172-31-90-136.ec2.internal
[master] launch node 38 -> ip-172-31-88-108.ec2.internal
[master] launch node 39 -> ip-172-31-91-107.ec2.internal
[master] launch node 40 -> ip-172-31-92-106.ec2.internal
[master] launch node 41 -> ip-172-31-88-105.ec2.internal
[master] launch node 42 -> ip-172-31-85-105.ec2.internal
[master] launch node 43 -> ip-172-31-85-100.ec2.internal
[master] launch node 44 -> ip-172-31-94-99.ec2.internal
[master] launch node 45 -> ip-172-31-82-98.ec2.internal
[master] launch node 46 -> ip-172-31-95-64.ec2.internal
[master] launch node 47 -> ip-172-31-95-122.ec2.internal
[master] launch node 48 -> ip-172-31-88-121.ec2.internal
[master] launch node 49 -> ip-172-31-82-118.ec2.internal
[master] launch node 50 -> ip-172-31-85-117.ec2.internal
[master] launch node 51 -> ip-172-31-84-116.ec2.internal
[master] launch node 52 -> ip-172-31-87-112.ec2.internal
[master] launch node 53 -> ip-172-31-88-110.ec2.internal
[master] launch node 54 -> ip-172-31-95-76.ec2.internal
[master] launch node 55 -> ip-172-31-93-76.ec2.internal
[master] launch node 56 -> ip-172-31-85-75.ec2.internal
[master] launch node 57 -> ip-172-31-83-73.ec2.internal
[master] launch node 58 -> ip-172-31-94-70.ec2.internal
[master] launch node 59 -> ip-172-31-95-70.ec2.internal
[master] launch node 60 -> ip-172-31-95-66.ec2.internal
[master] launch node 61 -> ip-172-31-88-66.ec2.internal
[master] launch node 62 -> ip-172-31-91-36.ec2.internal
[master] launch node 63 -> ip-172-31-94-95.ec2.internal
[master] launch node 64 -> ip-172-31-81-91.ec2.internal
[master] launch node 65 -> ip-172-31-81-88.ec2.internal
[master] launch node 66 -> ip-172-31-82-85.ec2.internal
[master] launch node 67 -> ip-172-31-82-83.ec2.internal
[master] launch node 68 -> ip-172-31-93-82.ec2.internal
[master] launch node 69 -> ip-172-31-85-81.ec2.internal
[master] launch node 70 -> ip-172-31-87-44.ec2.internal
[master] launch node 71 -> ip-172-31-82-43.ec2.internal
[master] launch node 72 -> ip-172-31-87-42.ec2.internal
[master] launch node 73 -> ip-172-31-81-42.ec2.internal
[master] launch node 74 -> ip-172-31-82-40.ec2.internal
[master] launch node 75 -> ip-172-31-95-39.ec2.internal
[master] launch node 76 -> ip-172-31-80-38.ec2.internal
[master] launch node 77 -> ip-172-31-86-36.ec2.internal
[master] launch node 78 -> ip-172-31-92-57.ec2.internal
[master] launch node 79 -> ip-172-31-85-57.ec2.internal
[master] launch node 80 -> ip-172-31-83-53.ec2.internal
[master] launch node 81 -> ip-172-31-82-51.ec2.internal
[master] launch node 82 -> ip-172-31-82-48.ec2.internal
[master] launch node 83 -> ip-172-31-93-48.ec2.internal
[master] launch node 84 -> ip-172-31-90-46.ec2.internal
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[master] launch node 85 -> ip-172-31-95-45.ec2.internal
[master] launch node 86 -> ip-172-31-83-228.ec2.internal
[master] launch node 87 -> ip-172-31-90-225.ec2.internal
[master] launch node 88 -> ip-172-31-93-242.ec2.internal
[master] launch node 89 -> ip-172-31-92-241.ec2.internal
[master] launch node 90 -> ip-172-31-88-236.ec2.internal
[master] launch node 91 -> ip-172-31-92-235.ec2.internal
[master] launch node 92 -> ip-172-31-87-234.ec2.internal
[master] launch node 93 -> ip-172-31-83-231.ec2.internal
[master] launch node 94 -> ip-172-31-91-231.ec2.internal
[master] launch node 95 -> ip-172-31-88-229.ec2.internal
[master] launch node 96 -> ip-172-31-87-197.ec2.internal
[master] launch node 97 -> ip-172-31-87-193.ec2.internal
[master] launch node 98 -> ip-172-31-89-192.ec2.internal
[master] launch node 99 -> ip-172-31-92-255.ec2.internal
[master] launch node 100 -> ip-172-31-90-252.ec2.internal
[master] launch node 101 -> ip-172-31-88-252.ec2.internal
[master] launch node 102 -> ip-172-31-92-248.ec2.internal
[master] launch node 103 -> ip-172-31-85-244.ec2.internal
[master] launch node 104 -> ip-172-31-93-212.ec2.internal
[master] launch node 105 -> ip-172-31-91-207.ec2.internal
[master] launch node 106 -> ip-172-31-91-203.ec2.internal
[master] launch node 107 -> ip-172-31-86-202.ec2.internal
[master] launch node 108 -> ip-172-31-83-201.ec2.internal
[master] launch node 109 -> ip-172-31-95-201.ec2.internal
[master] launch node 110 -> ip-172-31-81-201.ec2.internal
[master] launch node 111 -> ip-172-31-80-200.ec2.internal
[master] launch node 112 -> ip-172-31-80-162.ec2.internal
[master] launch node 113 -> ip-172-31-92-162.ec2.internal
[master] launch node 114 -> ip-172-31-90-160.ec2.internal
[master] launch node 115 -> ip-172-31-81-160.ec2.internal
[master] launch node 116 -> ip-172-31-92-160.ec2.internal
[master] launch node 117 -> ip-172-31-91-223.ec2.internal
[master] launch node 118 -> ip-172-31-86-216.ec2.internal
[master] launch node 119 -> ip-172-31-84-215.ec2.internal
[master] launch node 120 -> ip-172-31-86-186.ec2.internal
[master] launch node 121 -> ip-172-31-89-186.ec2.internal
[master] launch node 122 -> ip-172-31-88-181.ec2.internal
[master] launch node 123 -> ip-172-31-84-178.ec2.internal
[master] launch node 124 -> ip-172-31-83-172.ec2.internal
[master] launch node 125 -> ip-172-31-95-165.ec2.internal
[master] launch node 126 -> ip-172-31-83-164.ec2.internal
[master] launch node 127 -> ip-172-31-80-163.ec2.internal
[master] waiting for 128 node processes to finish...
[master] All node jobs finished (check logs under /mnt/efs/designs)
[master] Using fixed grid: ROWS=16 COLS=8 (tiles=128)
[master] Nodes: 128 (cores/node=8) Grid=16x8
[master] Resolve mode: private_dns AWS_REGION=default
[master] GDS=/mnt/efs/designs/gcd_array_125x125.gds
[master] RULES=/mnt/efs/designs/sky130_346_rules.lrf
[master] OUTDIR=/mnt/efs/designs
[master] Die bbox=(0,0)-(14497500,14497500)
[master] TOTAL_W=14497501 BASE_W=1812187 REM_W=5
[master] TOTAL_H=14497501 BASE_H=906093 REM_H=13
[master] wrote /mnt/efs/designs/gcd1_drc_0.cmd tile[i=0, r=0, c=0] bbox=(0,0)-(1812187,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_1.cmd tile[i=1, r=0, c=1] bbox=(1812188,0)-(3624375,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_2.cmd tile[i=2, r=0, c=2] bbox=(3624376,0)-(5436563,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_3.cmd tile[i=3, r=0, c=3] bbox=(5436564,0)-(7248751,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_4.cmd tile[i=4, r=0, c=4] bbox=(7248752,0)-(9060939,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_5.cmd tile[i=5, r=0, c=5] bbox=(9060940,0)-(10873126,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_6.cmd tile[i=6, r=0, c=6] bbox=(10873127,0)-(12685313,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_7.cmd tile[i=7, r=0, c=7] bbox=(12685314,0)-(14497500,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_8.cmd tile[i=8, r=1, c=0] bbox=(0,906094)-(1812187,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_9.cmd tile[i=9, r=1, c=1] bbox=(1812188,906094)-(3624375,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_10.cmd tile[i=10, r=1, c=2] bbox=(3624376,906094)-(5436563,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_11.cmd tile[i=11, r=1, c=3] bbox=(5436564,906094)-(7248751,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_12.cmd tile[i=12, r=1, c=4] bbox=(7248752,906094)-(9060939,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_13.cmd tile[i=13, r=1, c=5] bbox=(9060940,906094)-(10873126,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_14.cmd tile[i=14, r=1, c=6] bbox=(10873127,906094)-(12685313,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_15.cmd tile[i=15, r=1, c=7] bbox=(12685314,906094)-(14497500,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_16.cmd tile[i=16, r=2, c=0] bbox=(0,1812188)-(1812187,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_17.cmd tile[i=17, r=2, c=1] bbox=(1812188,1812188)-(3624375,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_18.cmd tile[i=18, r=2, c=2] bbox=(3624376,1812188)-(5436563,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_19.cmd tile[i=19, r=2, c=3] bbox=(5436564,1812188)-(7248751,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_20.cmd tile[i=20, r=2, c=4] bbox=(7248752,1812188)-(9060939,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_21.cmd tile[i=21, r=2, c=5] bbox=(9060940,1812188)-(10873126,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_22.cmd tile[i=22, r=2, c=6] bbox=(10873127,1812188)-(12685313,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_23.cmd tile[i=23, r=2, c=7] bbox=(12685314,1812188)-(14497500,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_24.cmd tile[i=24, r=3, c=0] bbox=(0,2718282)-(1812187,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_25.cmd tile[i=25, r=3, c=1] bbox=(1812188,2718282)-(3624375,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_26.cmd tile[i=26, r=3, c=2] bbox=(3624376,2718282)-(5436563,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_27.cmd tile[i=27, r=3, c=3] bbox=(5436564,2718282)-(7248751,3624375)

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18

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[master] wrote /mnt/efs/designs/gcd1_drc_110.cmd tile[i=110, r=13, c=6] bbox=(10873127,11779222)-(12685313,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_111.cmd tile[i=111, r=13, c=7] bbox=(12685314,11779222)-(14497500,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_112.cmd tile[i=112, r=14, c=0] bbox=(0,12685315)-(1812187,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_113.cmd tile[i=113, r=14, c=1] bbox=(1812188,12685315)-(3624375,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_114.cmd tile[i=114, r=14, c=2] bbox=(3624376,12685315)-(5436563,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_115.cmd tile[i=115, r=14, c=3] bbox=(5436564,12685315)-(7248751,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_116.cmd tile[i=116, r=14, c=4] bbox=(7248752,12685315)-(9060939,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_117.cmd tile[i=117, r=14, c=5] bbox=(9060940,12685315)-(10873126,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_118.cmd tile[i=118, r=14, c=6] bbox=(10873127,12685315)-(12685313,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_119.cmd tile[i=119, r=14, c=7] bbox=(12685314,12685315)-(14497500,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_120.cmd tile[i=120, r=15, c=0] bbox=(0,13591408)-(1812187,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_121.cmd tile[i=121, r=15, c=1] bbox=(1812188,13591408)-(3624375,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_122.cmd tile[i=122, r=15, c=2] bbox=(3624376,13591408)-(5436563,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_123.cmd tile[i=123, r=15, c=3] bbox=(5436564,13591408)-(7248751,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_124.cmd tile[i=124, r=15, c=4] bbox=(7248752,13591408)-(9060939,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_125.cmd tile[i=125, r=15, c=5] bbox=(9060940,13591408)-(10873126,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_126.cmd tile[i=126, r=15, c=6] bbox=(10873127,13591408)-(12685313,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_127.cmd tile[i=127, r=15, c=7] bbox=(12685314,13591408)-(14497500,14497500)
[master] launch node 0 -> ip-172-31-88-2.ec2.internal
[master] launch node 1 -> ip-172-31-90-2.ec2.internal
[master] launch node 2 -> ip-172-31-86-1.ec2.internal
[master] launch node 3 -> ip-172-31-95-0.ec2.internal
[master] launch node 4 -> ip-172-31-95-63.ec2.internal
[master] launch node 5 -> ip-172-31-80-62.ec2.internal
[master] launch node 6 -> ip-172-31-81-59.ec2.internal
[master] launch node 7 -> ip-172-31-86-58.ec2.internal
[master] launch node 8 -> ip-172-31-94-25.ec2.internal
[master] launch node 9 -> ip-172-31-95-24.ec2.internal
[master] launch node 10 -> ip-172-31-83-24.ec2.internal
[master] launch node 11 -> ip-172-31-82-20.ec2.internal
[master] launch node 12 -> ip-172-31-90-20.ec2.internal
[master] launch node 13 -> ip-172-31-94-16.ec2.internal
[master] launch node 14 -> ip-172-31-93-10.ec2.internal
[master] launch node 15 -> ip-172-31-95-5.ec2.internal
[master] launch node 16 -> ip-172-31-83-31.ec2.internal
[master] launch node 17 -> ip-172-31-80-30.ec2.internal
[master] launch node 18 -> ip-172-31-95-30.ec2.internal
[master] launch node 19 -> ip-172-31-82-30.ec2.internal
[master] launch node 20 -> ip-172-31-92-28.ec2.internal
[master] launch node 21 -> ip-172-31-80-26.ec2.internal
[master] launch node 22 -> ip-172-31-86-135.ec2.internal
[master] launch node 23 -> ip-172-31-86-133.ec2.internal
[master] launch node 24 -> ip-172-31-91-131.ec2.internal
[master] launch node 25 -> ip-172-31-88-131.ec2.internal
[master] launch node 26 -> ip-172-31-89-128.ec2.internal
[master] launch node 27 -> ip-172-31-81-128.ec2.internal
[master] launch node 28 -> ip-172-31-90-189.ec2.internal
[master] launch node 29 -> ip-172-31-85-188.ec2.internal
[master] launch node 30 -> ip-172-31-83-97.ec2.internal
[master] launch node 31 -> ip-172-31-80-159.ec2.internal
[master] launch node 32 -> ip-172-31-89-146.ec2.internal
[master] launch node 33 -> ip-172-31-81-145.ec2.internal
[master] launch node 34 -> ip-172-31-89-142.ec2.internal
[master] launch node 35 -> ip-172-31-83-138.ec2.internal
[master] launch node 36 -> ip-172-31-93-137.ec2.internal
[master] launch node 37 -> ip-172-31-90-136.ec2.internal
[master] launch node 38 -> ip-172-31-88-108.ec2.internal
[master] launch node 39 -> ip-172-31-91-107.ec2.internal
[master] launch node 40 -> ip-172-31-92-106.ec2.internal
[master] launch node 41 -> ip-172-31-88-105.ec2.internal
[master] launch node 42 -> ip-172-31-85-105.ec2.internal
[master] launch node 43 -> ip-172-31-85-100.ec2.internal
[master] launch node 44 -> ip-172-31-94-99.ec2.internal
[master] launch node 45 -> ip-172-31-82-98.ec2.internal
[master] launch node 46 -> ip-172-31-95-64.ec2.internal
[master] launch node 47 -> ip-172-31-95-122.ec2.internal
[master] launch node 48 -> ip-172-31-88-121.ec2.internal
[master] launch node 49 -> ip-172-31-82-118.ec2.internal
[master] launch node 50 -> ip-172-31-85-117.ec2.internal
[master] launch node 51 -> ip-172-31-84-116.ec2.internal
[master] launch node 52 -> ip-172-31-87-112.ec2.internal
[master] launch node 53 -> ip-172-31-88-110.ec2.internal
[master] launch node 54 -> ip-172-31-95-76.ec2.internal
[master] launch node 55 -> ip-172-31-93-76.ec2.internal
[master] launch node 56 -> ip-172-31-85-75.ec2.internal
[master] launch node 57 -> ip-172-31-83-73.ec2.internal
[master] launch node 58 -> ip-172-31-94-70.ec2.internal
[master] launch node 59 -> ip-172-31-95-70.ec2.internal
[master] launch node 60 -> ip-172-31-95-66.ec2.internal
[master] launch node 61 -> ip-172-31-88-66.ec2.internal
[master] launch node 62 -> ip-172-31-91-36.ec2.internal
[master] launch node 63 -> ip-172-31-94-95.ec2.internal
```

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[master] launch node 64 -> ip-172-31-81-91.ec2.internal
[master] launch node 65 -> ip-172-31-81-88.ec2.internal
[master] launch node 66 -> ip-172-31-82-85.ec2.internal
[master] launch node 67 -> ip-172-31-82-83.ec2.internal
[master] launch node 68 -> ip-172-31-93-82.ec2.internal
[master] launch node 69 -> ip-172-31-85-81.ec2.internal
[master] launch node 70 -> ip-172-31-87-44.ec2.internal
[master] launch node 71 -> ip-172-31-82-43.ec2.internal
[master] launch node 72 -> ip-172-31-87-42.ec2.internal
[master] launch node 73 -> ip-172-31-81-42.ec2.internal
[master] launch node 74 -> ip-172-31-82-40.ec2.internal
[master] launch node 75 -> ip-172-31-95-39.ec2.internal
[master] launch node 76 -> ip-172-31-80-38.ec2.internal
[master] launch node 77 -> ip-172-31-86-36.ec2.internal
[master] launch node 78 -> ip-172-31-92-57.ec2.internal
[master] launch node 79 -> ip-172-31-85-57.ec2.internal
[master] launch node 80 -> ip-172-31-83-53.ec2.internal
[master] launch node 81 -> ip-172-31-82-51.ec2.internal
[master] launch node 82 -> ip-172-31-82-48.ec2.internal
[master] launch node 83 -> ip-172-31-93-48.ec2.internal
[master] launch node 84 -> ip-172-31-90-46.ec2.internal
[master] launch node 85 -> ip-172-31-95-45.ec2.internal
[master] launch node 86 -> ip-172-31-83-228.ec2.internal
[master] launch node 87 -> ip-172-31-90-225.ec2.internal
[master] launch node 88 -> ip-172-31-93-242.ec2.internal
[master] launch node 89 -> ip-172-31-92-241.ec2.internal
[master] launch node 90 -> ip-172-31-88-236.ec2.internal
[master] launch node 91 -> ip-172-31-92-235.ec2.internal
[master] launch node 92 -> ip-172-31-87-234.ec2.internal
[master] launch node 93 -> ip-172-31-83-231.ec2.internal
[master] launch node 94 -> ip-172-31-91-231.ec2.internal
[master] launch node 95 -> ip-172-31-88-229.ec2.internal
[master] launch node 96 -> ip-172-31-87-197.ec2.internal
[master] launch node 97 -> ip-172-31-87-193.ec2.internal
[master] launch node 98 -> ip-172-31-89-192.ec2.internal
[master] launch node 99 -> ip-172-31-92-255.ec2.internal
[master] launch node 100 -> ip-172-31-90-252.ec2.internal
[master] launch node 101 -> ip-172-31-88-252.ec2.internal
[master] launch node 102 -> ip-172-31-92-248.ec2.internal
[master] launch node 103 -> ip-172-31-85-244.ec2.internal
[master] launch node 104 -> ip-172-31-93-212.ec2.internal
[master] launch node 105 -> ip-172-31-91-207.ec2.internal
[master] launch node 106 -> ip-172-31-91-203.ec2.internal
[master] launch node 107 -> ip-172-31-86-202.ec2.internal
[master] launch node 108 -> ip-172-31-83-201.ec2.internal
[master] launch node 109 -> ip-172-31-95-201.ec2.internal
[master] launch node 110 -> ip-172-31-81-201.ec2.internal
[master] launch node 111 -> ip-172-31-80-200.ec2.internal
[master] launch node 112 -> ip-172-31-80-162.ec2.internal
[master] launch node 113 -> ip-172-31-92-162.ec2.internal
[master] launch node 114 -> ip-172-31-90-160.ec2.internal
[master] launch node 115 -> ip-172-31-81-160.ec2.internal
[master] launch node 116 -> ip-172-31-92-160.ec2.internal
[master] launch node 117 -> ip-172-31-91-223.ec2.internal
[master] launch node 118 -> ip-172-31-86-216.ec2.internal
[master] launch node 119 -> ip-172-31-84-215.ec2.internal
[master] launch node 120 -> ip-172-31-86-186.ec2.internal
[master] launch node 121 -> ip-172-31-89-186.ec2.internal
[master] launch node 122 -> ip-172-31-88-181.ec2.internal
[master] launch node 123 -> ip-172-31-84-178.ec2.internal
[master] launch node 124 -> ip-172-31-83-172.ec2.internal
[master] launch node 125 -> ip-172-31-95-165.ec2.internal
[master] launch node 126 -> ip-172-31-83-164.ec2.internal
[master] launch node 127 -> ip-172-31-80-163.ec2.internal
[master] waiting for 128 node processes to finish...
[master] All node jobs finished (check logs under /mnt/efs/designs)
[master] Using fixed grid: ROWS=16 COLS=8 (tiles=128)
[master] Nodes: 128 (cores/node=8) Grid=16x8
[master] Resolve mode: private_dns AWS_REGION=default
[master] GDS=/mnt/efs/designs/gcd_array_125x125.gds
[master] RULES=/mnt/efs/designs/sky130_width.lrf
[master] OUTDIR=/mnt/efs/designs
[master] Die bbox=(0,0)-(14497500,14497500)
[master] TOTAL_W=14497501 BASE_W=1812187 REM_W=5
[master] TOTAL_H=14497501 BASE_H=906093 REM_H=13
[master] wrote /mnt/efs/designs/gcd1_drc_0.cmd tile[i=0, r=0, c=0] bbox=(0,0)-(1812187,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_1.cmd tile[i=1, r=0, c=1] bbox=(1812188,0)-(3624375,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_2.cmd tile[i=2, r=0, c=2] bbox=(3624376,0)-(5436563,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_3.cmd tile[i=3, r=0, c=3] bbox=(5436564,0)-(7248751,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_4.cmd tile[i=4, r=0, c=4] bbox=(7248752,0)-(9060939,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_5.cmd tile[i=5, r=0, c=5] bbox=(9060940,0)-(10873126,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_6.cmd tile[i=6, r=0, c=6] bbox=(10873127,0)-(12685313,906093)

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21

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[master] wrote /mnt/efs/designs/gcd1_drc_89.cmd tile[i=89, r=11, c=1] bbox=(1812188,9967034)-(3624375,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_90.cmd tile[i=90, r=11, c=2] bbox=(3624376,9967034)-(5436563,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_91.cmd tile[i=91, r=11, c=3] bbox=(5436564,9967034)-(7248751,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_92.cmd tile[i=92, r=11, c=4] bbox=(7248752,9967034)-(9060939,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_93.cmd tile[i=93, r=11, c=5] bbox=(9060940,9967034)-(10873126,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_94.cmd tile[i=94, r=11, c=6] bbox=(10873127,9967034)-(12685313,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_95.cmd tile[i=95, r=11, c=7] bbox=(12685314,9967034)-(14497500,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_96.cmd tile[i=96, r=12, c=0] bbox=(0,10873128)-(1812187,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_97.cmd tile[i=97, r=12, c=1] bbox=(1812188,10873128)-(3624375,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_98.cmd tile[i=98, r=12, c=2] bbox=(3624376,10873128)-(5436563,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_99.cmd tile[i=99, r=12, c=3] bbox=(5436564,10873128)-(7248751,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_100.cmd tile[i=100, r=12, c=4] bbox=(7248752,10873128)-(9060939,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_101.cmd tile[i=101, r=12, c=5] bbox=(9060940,10873128)-(10873126,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_102.cmd tile[i=102, r=12, c=6] bbox=(10873127,10873128)-(12685313,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_103.cmd tile[i=103, r=12, c=7] bbox=(12685314,10873128)-(14497500,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_104.cmd tile[i=104, r=13, c=0] bbox=(0,11779222)-(1812187,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_105.cmd tile[i=105, r=13, c=1] bbox=(1812188,11779222)-(3624375,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_106.cmd tile[i=106, r=13, c=2] bbox=(3624376,11779222)-(5436563,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_107.cmd tile[i=107, r=13, c=3] bbox=(5436564,11779222)-(7248751,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_108.cmd tile[i=108, r=13, c=4] bbox=(7248752,11779222)-(9060939,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_109.cmd tile[i=109, r=13, c=5] bbox=(9060940,11779222)-(10873126,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_110.cmd tile[i=110, r=13, c=6] bbox=(10873127,11779222)-(12685313,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_111.cmd tile[i=111, r=13, c=7] bbox=(12685314,11779222)-(14497500,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_112.cmd tile[i=112, r=14, c=0] bbox=(0,12685315)-(1812187,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_113.cmd tile[i=113, r=14, c=1] bbox=(1812188,12685315)-(3624375,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_114.cmd tile[i=114, r=14, c=2] bbox=(3624376,12685315)-(5436563,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_115.cmd tile[i=115, r=14, c=3] bbox=(5436564,12685315)-(7248751,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_116.cmd tile[i=116, r=14, c=4] bbox=(7248752,12685315)-(9060939,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_117.cmd tile[i=117, r=14, c=5] bbox=(9060940,12685315)-(10873126,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_118.cmd tile[i=118, r=14, c=6] bbox=(10873127,12685315)-(12685313,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_119.cmd tile[i=119, r=14, c=7] bbox=(12685314,12685315)-(14497500,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_120.cmd tile[i=120, r=15, c=0] bbox=(0,13591408)-(1812187,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_121.cmd tile[i=121, r=15, c=1] bbox=(1812188,13591408)-(3624375,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_122.cmd tile[i=122, r=15, c=2] bbox=(3624376,13591408)-(5436563,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_123.cmd tile[i=123, r=15, c=3] bbox=(5436564,13591408)-(7248751,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_124.cmd tile[i=124, r=15, c=4] bbox=(7248752,13591408)-(9060939,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_125.cmd tile[i=125, r=15, c=5] bbox=(9060940,13591408)-(10873126,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_126.cmd tile[i=126, r=15, c=6] bbox=(10873127,13591408)-(12685313,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_127.cmd tile[i=127, r=15, c=7] bbox=(12685314,13591408)-(14497500,14497500)
[master] launch node 0 -> ip-172-31-88-2.ec2.internal
[master] launch node 1 -> ip-172-31-90-2.ec2.internal
[master] launch node 2 -> ip-172-31-86-1.ec2.internal
[master] launch node 3 -> ip-172-31-95-0.ec2.internal
[master] launch node 4 -> ip-172-31-95-63.ec2.internal
[master] launch node 5 -> ip-172-31-80-62.ec2.internal
[master] launch node 6 -> ip-172-31-81-59.ec2.internal
[master] launch node 7 -> ip-172-31-86-58.ec2.internal
[master] launch node 8 -> ip-172-31-94-25.ec2.internal
[master] launch node 9 -> ip-172-31-95-24.ec2.internal
[master] launch node 10 -> ip-172-31-83-24.ec2.internal
[master] launch node 11 -> ip-172-31-82-20.ec2.internal
[master] launch node 12 -> ip-172-31-90-20.ec2.internal
[master] launch node 13 -> ip-172-31-94-16.ec2.internal
[master] launch node 14 -> ip-172-31-93-10.ec2.internal
[master] launch node 15 -> ip-172-31-95-5.ec2.internal
[master] launch node 16 -> ip-172-31-83-31.ec2.internal
[master] launch node 17 -> ip-172-31-80-30.ec2.internal
[master] launch node 18 -> ip-172-31-95-30.ec2.internal
[master] launch node 19 -> ip-172-31-82-30.ec2.internal
[master] launch node 20 -> ip-172-31-92-28.ec2.internal
[master] launch node 21 -> ip-172-31-80-26.ec2.internal
[master] launch node 22 -> ip-172-31-86-135.ec2.internal
[master] launch node 23 -> ip-172-31-86-133.ec2.internal
[master] launch node 24 -> ip-172-31-91-131.ec2.internal
[master] launch node 25 -> ip-172-31-88-131.ec2.internal
[master] launch node 26 -> ip-172-31-89-128.ec2.internal
[master] launch node 27 -> ip-172-31-81-128.ec2.internal
[master] launch node 28 -> ip-172-31-90-189.ec2.internal
[master] launch node 29 -> ip-172-31-85-188.ec2.internal
[master] launch node 30 -> ip-172-31-83-97.ec2.internal
[master] launch node 31 -> ip-172-31-80-159.ec2.internal
[master] launch node 32 -> ip-172-31-89-146.ec2.internal
[master] launch node 33 -> ip-172-31-81-145.ec2.internal
[master] launch node 34 -> ip-172-31-89-142.ec2.internal
[master] launch node 35 -> ip-172-31-83-138.ec2.internal
[master] launch node 36 -> ip-172-31-93-137.ec2.internal
[master] launch node 37 -> ip-172-31-90-136.ec2.internal
[master] launch node 38 -> ip-172-31-88-108.ec2.internal
[master] launch node 39 -> ip-172-31-91-107.ec2.internal
[master] launch node 40 -> ip-172-31-92-106.ec2.internal
[master] launch node 41 -> ip-172-31-88-105.ec2.internal
[master] launch node 42 -> ip-172-31-85-105.ec2.internal
```

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[master] launch node 43 -> ip-172-31-85-100.ec2.internal
[master] launch node 44 -> ip-172-31-94-99.ec2.internal
[master] launch node 45 -> ip-172-31-82-98.ec2.internal
[master] launch node 46 -> ip-172-31-95-64.ec2.internal
[master] launch node 47 -> ip-172-31-95-122.ec2.internal
[master] launch node 48 -> ip-172-31-88-121.ec2.internal
[master] launch node 49 -> ip-172-31-82-118.ec2.internal
[master] launch node 50 -> ip-172-31-85-117.ec2.internal
[master] launch node 51 -> ip-172-31-84-116.ec2.internal
[master] launch node 52 -> ip-172-31-87-112.ec2.internal
[master] launch node 53 -> ip-172-31-88-110.ec2.internal
[master] launch node 54 -> ip-172-31-95-76.ec2.internal
[master] launch node 55 -> ip-172-31-93-76.ec2.internal
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[master] launch node 59 -> ip-172-31-95-70.ec2.internal
[master] launch node 60 -> ip-172-31-95-66.ec2.internal
[master] launch node 61 -> ip-172-31-88-66.ec2.internal
[master] launch node 62 -> ip-172-31-91-36.ec2.internal
[master] launch node 63 -> ip-172-31-94-95.ec2.internal
[master] launch node 64 -> ip-172-31-81-91.ec2.internal
[master] launch node 65 -> ip-172-31-81-88.ec2.internal
[master] launch node 66 -> ip-172-31-82-85.ec2.internal
[master] launch node 67 -> ip-172-31-82-83.ec2.internal
[master] launch node 68 -> ip-172-31-93-82.ec2.internal
[master] launch node 69 -> ip-172-31-85-81.ec2.internal
[master] launch node 70 -> ip-172-31-87-44.ec2.internal
[master] launch node 71 -> ip-172-31-82-43.ec2.internal
[master] launch node 72 -> ip-172-31-87-42.ec2.internal
[master] launch node 73 -> ip-172-31-81-42.ec2.internal
[master] launch node 74 -> ip-172-31-82-40.ec2.internal
[master] launch node 75 -> ip-172-31-95-39.ec2.internal
[master] launch node 76 -> ip-172-31-80-38.ec2.internal
[master] launch node 77 -> ip-172-31-86-36.ec2.internal
[master] launch node 78 -> ip-172-31-92-57.ec2.internal
[master] launch node 79 -> ip-172-31-85-57.ec2.internal
[master] launch node 80 -> ip-172-31-83-53.ec2.internal
[master] launch node 81 -> ip-172-31-82-51.ec2.internal
[master] launch node 82 -> ip-172-31-82-48.ec2.internal
[master] launch node 83 -> ip-172-31-93-48.ec2.internal
[master] launch node 84 -> ip-172-31-90-46.ec2.internal
[master] launch node 85 -> ip-172-31-95-45.ec2.internal
[master] launch node 86 -> ip-172-31-83-228.ec2.internal
[master] launch node 87 -> ip-172-31-90-225.ec2.internal
[master] launch node 88 -> ip-172-31-93-242.ec2.internal
[master] launch node 89 -> ip-172-31-92-241.ec2.internal
[master] launch node 90 -> ip-172-31-88-236.ec2.internal
[master] launch node 91 -> ip-172-31-92-235.ec2.internal
[master] launch node 92 -> ip-172-31-87-234.ec2.internal
[master] launch node 93 -> ip-172-31-83-231.ec2.internal
[master] launch node 94 -> ip-172-31-91-231.ec2.internal
[master] launch node 95 -> ip-172-31-88-229.ec2.internal
[master] launch node 96 -> ip-172-31-87-197.ec2.internal
[master] launch node 97 -> ip-172-31-87-193.ec2.internal
[master] launch node 98 -> ip-172-31-89-192.ec2.internal
[master] launch node 99 -> ip-172-31-92-255.ec2.internal
[master] launch node 100 -> ip-172-31-90-252.ec2.internal
[master] launch node 101 -> ip-172-31-88-252.ec2.internal
[master] launch node 102 -> ip-172-31-92-248.ec2.internal
[master] launch node 103 -> ip-172-31-85-244.ec2.internal
[master] launch node 104 -> ip-172-31-93-212.ec2.internal
[master] launch node 105 -> ip-172-31-91-207.ec2.internal
[master] launch node 106 -> ip-172-31-91-203.ec2.internal
[master] launch node 107 -> ip-172-31-86-202.ec2.internal
[master] launch node 108 -> ip-172-31-83-201.ec2.internal
[master] launch node 109 -> ip-172-31-95-201.ec2.internal
[master] launch node 110 -> ip-172-31-81-201.ec2.internal
[master] launch node 111 -> ip-172-31-80-200.ec2.internal
[master] launch node 112 -> ip-172-31-80-162.ec2.internal
[master] launch node 113 -> ip-172-31-92-162.ec2.internal
[master] launch node 114 -> ip-172-31-90-160.ec2.internal
[master] launch node 115 -> ip-172-31-81-160.ec2.internal
[master] launch node 116 -> ip-172-31-92-160.ec2.internal
[master] launch node 117 -> ip-172-31-91-223.ec2.internal
[master] launch node 118 -> ip-172-31-86-216.ec2.internal
[master] launch node 119 -> ip-172-31-84-215.ec2.internal
[master] launch node 120 -> ip-172-31-86-186.ec2.internal
[master] launch node 121 -> ip-172-31-89-186.ec2.internal
[master] launch node 122 -> ip-172-31-88-181.ec2.internal
[master] launch node 123 -> ip-172-31-84-178.ec2.internal
[master] launch node 124 -> ip-172-31-83-172.ec2.internal
```

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[master] launch node 125 -> ip-172-31-95-165.ec2.internal
[master] launch node 126 -> ip-172-31-83-164.ec2.internal
[master] launch node 127 -> ip-172-31-80-163.ec2.internal
[master] waiting for 128 node processes to finish...
[master] All node jobs finished (check logs under /mnt/efs/designs)
[master] Using fixed grid: ROWS=16 COLS=8 (tiles=128)
[master] Nodes: 128 (cores/node=8) Grid=16x8
[master] Resolve mode: private_dns AWS_REGION=default
[master] GDS=/mnt/efs/designs/gcd_array_125x125.gds
[master] RULES=/mnt/efs/designs/sky130_enclosure.lrf
[master] OUTDIR=/mnt/efs/designs
[master] Die bbox=(0,0)-(14497500,14497500)
[master] TOTAL_W=14497501 BASE_W=1812187 REM_W=5
[master] TOTAL_H=14497501 BASE_H=906093 REM_H=13
[master] wrote /mnt/efs/designs/gcd1_drc_0.cmd tile[i=0, r=0, c=0] bbox=(0,0)-(1812187,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_1.cmd tile[i=1, r=0, c=1] bbox=(1812188,0)-(3624375,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_2.cmd tile[i=2, r=0, c=2] bbox=(3624376,0)-(5436563,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_3.cmd tile[i=3, r=0, c=3] bbox=(5436564,0)-(7248751,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_4.cmd tile[i=4, r=0, c=4] bbox=(7248752,0)-(9060939,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_5.cmd tile[i=5, r=0, c=5] bbox=(9060940,0)-(10873126,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_6.cmd tile[i=6, r=0, c=6] bbox=(10873127,0)-(12685313,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_7.cmd tile[i=7, r=0, c=7] bbox=(12685314,0)-(14497500,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_8.cmd tile[i=8, r=1, c=0] bbox=(0,906094)-(1812187,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_9.cmd tile[i=9, r=1, c=1] bbox=(1812188,906094)-(3624375,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_10.cmd tile[i=10, r=1, c=2] bbox=(3624376,906094)-(5436563,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_11.cmd tile[i=11, r=1, c=3] bbox=(5436564,906094)-(7248751,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_12.cmd tile[i=12, r=1, c=4] bbox=(7248752,906094)-(9060939,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_13.cmd tile[i=13, r=1, c=5] bbox=(9060940,906094)-(10873126,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_14.cmd tile[i=14, r=1, c=6] bbox=(10873127,906094)-(12685313,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_15.cmd tile[i=15, r=1, c=7] bbox=(12685314,906094)-(14497500,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_16.cmd tile[i=16, r=2, c=0] bbox=(0,1812188)-(1812187,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_17.cmd tile[i=17, r=2, c=1] bbox=(1812188,1812188)-(3624375,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_18.cmd tile[i=18, r=2, c=2] bbox=(3624376,1812188)-(5436563,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_19.cmd tile[i=19, r=2, c=3] bbox=(5436564,1812188)-(7248751,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_20.cmd tile[i=20, r=2, c=4] bbox=(7248752,1812188)-(9060939,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_21.cmd tile[i=21, r=2, c=5] bbox=(9060940,1812188)-(10873126,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_22.cmd tile[i=22, r=2, c=6] bbox=(10873127,1812188)-(12685313,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_23.cmd tile[i=23, r=2, c=7] bbox=(12685314,1812188)-(14497500,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_24.cmd tile[i=24, r=3, c=0] bbox=(0,2718282)-(1812187,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_25.cmd tile[i=25, r=3, c=1] bbox=(1812188,2718282)-(3624375,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_26.cmd tile[i=26, r=3, c=2] bbox=(3624376,2718282)-(5436563,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_27.cmd tile[i=27, r=3, c=3] bbox=(5436564,2718282)-(7248751,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_28.cmd tile[i=28, r=3, c=4] bbox=(7248752,2718282)-(9060939,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_29.cmd tile[i=29, r=3, c=5] bbox=(9060940,2718282)-(10873126,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_30.cmd tile[i=30, r=3, c=6] bbox=(10873127,2718282)-(12685313,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_31.cmd tile[i=31, r=3, c=7] bbox=(12685314,2718282)-(14497500,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_32.cmd tile[i=32, r=4, c=0] bbox=(0,3624376)-(1812187,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_33.cmd tile[i=33, r=4, c=1] bbox=(1812188,3624376)-(3624375,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_34.cmd tile[i=34, r=4, c=2] bbox=(3624376,3624376)-(5436563,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_35.cmd tile[i=35, r=4, c=3] bbox=(5436564,3624376)-(7248751,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_36.cmd tile[i=36, r=4, c=4] bbox=(7248752,3624376)-(9060939,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_37.cmd tile[i=37, r=4, c=5] bbox=(9060940,3624376)-(10873126,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_38.cmd tile[i=38, r=4, c=6] bbox=(10873127,3624376)-(12685313,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_39.cmd tile[i=39, r=4, c=7] bbox=(12685314,3624376)-(14497500,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_40.cmd tile[i=40, r=5, c=0] bbox=(0,4530470)-(1812187,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_41.cmd tile[i=41, r=5, c=1] bbox=(1812188,4530470)-(3624375,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_42.cmd tile[i=42, r=5, c=2] bbox=(3624376,4530470)-(5436563,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_43.cmd tile[i=43, r=5, c=3] bbox=(5436564,4530470)-(7248751,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_44.cmd tile[i=44, r=5, c=4] bbox=(7248752,4530470)-(9060939,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_45.cmd tile[i=45, r=5, c=5] bbox=(9060940,4530470)-(10873126,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_46.cmd tile[i=46, r=5, c=6] bbox=(10873127,4530470)-(12685313,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_47.cmd tile[i=47, r=5, c=7] bbox=(12685314,4530470)-(14497500,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_48.cmd tile[i=48, r=6, c=0] bbox=(0,5436564)-(1812187,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_49.cmd tile[i=49, r=6, c=1] bbox=(1812188,5436564)-(3624375,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_50.cmd tile[i=50, r=6, c=2] bbox=(3624376,5436564)-(5436563,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_51.cmd tile[i=51, r=6, c=3] bbox=(5436564,5436564)-(7248751,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_52.cmd tile[i=52, r=6, c=4] bbox=(7248752,5436564)-(9060939,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_53.cmd tile[i=53, r=6, c=5] bbox=(9060940,5436564)-(10873126,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_54.cmd tile[i=54, r=6, c=6] bbox=(10873127,5436564)-(12685313,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_55.cmd tile[i=55, r=6, c=7] bbox=(12685314,5436564)-(14497500,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_56.cmd tile[i=56, r=7, c=0] bbox=(0,6342658)-(1812187,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_57.cmd tile[i=57, r=7, c=1] bbox=(1812188,6342658)-(3624375,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_58.cmd tile[i=58, r=7, c=2] bbox=(3624376,6342658)-(5436563,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_59.cmd tile[i=59, r=7, c=3] bbox=(5436564,6342658)-(7248751,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_60.cmd tile[i=60, r=7, c=4] bbox=(7248752,6342658)-(9060939,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_61.cmd tile[i=61, r=7, c=5] bbox=(9060940,6342658)-(10873126,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_62.cmd tile[i=62, r=7, c=6] bbox=(10873127,6342658)-(12685313,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_63.cmd tile[i=63, r=7, c=7] bbox=(12685314,6342658)-(14497500,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_64.cmd tile[i=64, r=8, c=0] bbox=(0,7248752)-(1812187,8154845)
[master] wrote /mnt/efs/designs/gcd1_drc_65.cmd tile[i=65, r=8, c=1] bbox=(1812188,7248752)-(3624375,8154845)
[master] wrote /mnt/efs/designs/gcd1_drc_66.cmd tile[i=66, r=8, c=2] bbox=(3624376,7248752)-(5436563,8154845)
[master] wrote /mnt/efs/designs/gcd1_drc_67.cmd tile[i=67, r=8, c=3] bbox=(5436564,7248752)-(7248751,8154845)

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[master] wrote /mnt/efs/designs/gcd1_drc_68.cmd tile[i=68, r=8, c=4] bbox=(7248752,7248752)-(9060939,8154845)
[master] wrote /mnt/efs/designs/gcd1_drc_69.cmd tile[i=69, r=8, c=5] bbox=(9060940,7248752)-(10873126,8154845)
[master] wrote /mnt/efs/designs/gcd1_drc_70.cmd tile[i=70, r=8, c=6] bbox=(10873127,7248752)-(12685313,8154845)
[master] wrote /mnt/efs/designs/gcd1_drc_71.cmd tile[i=71, r=8, c=7] bbox=(12685314,7248752)-(14497500,8154845)
[master] wrote /mnt/efs/designs/gcd1_drc_72.cmd tile[i=72, r=9, c=0] bbox=(0,8154846)-(1812187,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_73.cmd tile[i=73, r=9, c=1] bbox=(1812188,8154846)-(3624375,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_74.cmd tile[i=74, r=9, c=2] bbox=(3624376,8154846)-(5436563,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_75.cmd tile[i=75, r=9, c=3] bbox=(5436564,8154846)-(7248751,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_76.cmd tile[i=76, r=9, c=4] bbox=(7248752,8154846)-(9060939,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_77.cmd tile[i=77, r=9, c=5] bbox=(9060940,8154846)-(10873126,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_78.cmd tile[i=78, r=9, c=6] bbox=(10873127,8154846)-(12685313,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_79.cmd tile[i=79, r=9, c=7] bbox=(12685314,8154846)-(14497500,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_80.cmd tile[i=80, r=10, c=0] bbox=(0,9060940)-(1812187,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_81.cmd tile[i=81, r=10, c=1] bbox=(1812188,9060940)-(3624375,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_82.cmd tile[i=82, r=10, c=2] bbox=(3624376,9060940)-(5436563,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_83.cmd tile[i=83, r=10, c=3] bbox=(5436564,9060940)-(7248751,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_84.cmd tile[i=84, r=10, c=4] bbox=(7248752,9060940)-(9060939,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_85.cmd tile[i=85, r=10, c=5] bbox=(9060940,9060940)-(10873126,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_86.cmd tile[i=86, r=10, c=6] bbox=(10873127,9060940)-(12685313,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_87.cmd tile[i=87, r=10, c=7] bbox=(12685314,9060940)-(14497500,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_88.cmd tile[i=88, r=11, c=0] bbox=(0,9967034)-(1812187,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_89.cmd tile[i=89, r=11, c=1] bbox=(1812188,9967034)-(3624375,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_90.cmd tile[i=90, r=11, c=2] bbox=(3624376,9967034)-(5436563,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_91.cmd tile[i=91, r=11, c=3] bbox=(5436564,9967034)-(7248751,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_92.cmd tile[i=92, r=11, c=4] bbox=(7248752,9967034)-(9060939,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_93.cmd tile[i=93, r=11, c=5] bbox=(9060940,9967034)-(10873126,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_94.cmd tile[i=94, r=11, c=6] bbox=(10873127,9967034)-(12685313,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_95.cmd tile[i=95, r=11, c=7] bbox=(12685314,9967034)-(14497500,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_96.cmd tile[i=96, r=12, c=0] bbox=(0,10873128)-(1812187,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_97.cmd tile[i=97, r=12, c=1] bbox=(1812188,10873128)-(3624375,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_98.cmd tile[i=98, r=12, c=2] bbox=(3624376,10873128)-(5436563,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_99.cmd tile[i=99, r=12, c=3] bbox=(5436564,10873128)-(7248751,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_100.cmd tile[i=100, r=12, c=4] bbox=(7248752,10873128)-(9060939,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_101.cmd tile[i=101, r=12, c=5] bbox=(9060940,10873128)-(10873126,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_102.cmd tile[i=102, r=12, c=6] bbox=(10873127,10873128)-(12685313,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_103.cmd tile[i=103, r=12, c=7] bbox=(12685314,10873128)-(14497500,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_104.cmd tile[i=104, r=13, c=0] bbox=(0,11779222)-(1812187,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_105.cmd tile[i=105, r=13, c=1] bbox=(1812188,11779222)-(3624375,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_106.cmd tile[i=106, r=13, c=2] bbox=(3624376,11779222)-(5436563,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_107.cmd tile[i=107, r=13, c=3] bbox=(5436564,11779222)-(7248751,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_108.cmd tile[i=108, r=13, c=4] bbox=(7248752,11779222)-(9060939,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_109.cmd tile[i=109, r=13, c=5] bbox=(9060940,11779222)-(10873126,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_110.cmd tile[i=110, r=13, c=6] bbox=(10873127,11779222)-(12685313,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_111.cmd tile[i=111, r=13, c=7] bbox=(12685314,11779222)-(14497500,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_112.cmd tile[i=112, r=14, c=0] bbox=(0,12685315)-(1812187,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_113.cmd tile[i=113, r=14, c=1] bbox=(1812188,12685315)-(3624375,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_114.cmd tile[i=114, r=14, c=2] bbox=(3624376,12685315)-(5436563,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_115.cmd tile[i=115, r=14, c=3] bbox=(5436564,12685315)-(7248751,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_116.cmd tile[i=116, r=14, c=4] bbox=(7248752,12685315)-(9060939,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_117.cmd tile[i=117, r=14, c=5] bbox=(9060940,12685315)-(10873126,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_118.cmd tile[i=118, r=14, c=6] bbox=(10873127,12685315)-(12685313,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_119.cmd tile[i=119, r=14, c=7] bbox=(12685314,12685315)-(14497500,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_120.cmd tile[i=120, r=15, c=0] bbox=(0,13591408)-(1812187,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_121.cmd tile[i=121, r=15, c=1] bbox=(1812188,13591408)-(3624375,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_122.cmd tile[i=122, r=15, c=2] bbox=(3624376,13591408)-(5436563,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_123.cmd tile[i=123, r=15, c=3] bbox=(5436564,13591408)-(7248751,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_124.cmd tile[i=124, r=15, c=4] bbox=(7248752,13591408)-(9060939,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_125.cmd tile[i=125, r=15, c=5] bbox=(9060940,13591408)-(10873126,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_126.cmd tile[i=126, r=15, c=6] bbox=(10873127,13591408)-(12685313,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_127.cmd tile[i=127, r=15, c=7] bbox=(12685314,13591408)-(14497500,14497500)
[master] launch node 0 -> ip-172-31-88-2.ec2.internal
[master] launch node 1 -> ip-172-31-90-2.ec2.internal
[master] launch node 2 -> ip-172-31-86-1.ec2.internal
[master] launch node 3 -> ip-172-31-95-0.ec2.internal
[master] launch node 4 -> ip-172-31-95-63.ec2.internal
[master] launch node 5 -> ip-172-31-80-62.ec2.internal
[master] launch node 6 -> ip-172-31-81-59.ec2.internal
[master] launch node 7 -> ip-172-31-86-58.ec2.internal
[master] launch node 8 -> ip-172-31-94-25.ec2.internal
[master] launch node 9 -> ip-172-31-95-24.ec2.internal
[master] launch node 10 -> ip-172-31-83-24.ec2.internal
[master] launch node 11 -> ip-172-31-82-20.ec2.internal
[master] launch node 12 -> ip-172-31-90-20.ec2.internal
[master] launch node 13 -> ip-172-31-94-16.ec2.internal
[master] launch node 14 -> ip-172-31-93-10.ec2.internal
[master] launch node 15 -> ip-172-31-95-5.ec2.internal
[master] launch node 16 -> ip-172-31-83-31.ec2.internal
[master] launch node 17 -> ip-172-31-80-30.ec2.internal
[master] launch node 18 -> ip-172-31-95-30.ec2.internal
[master] launch node 19 -> ip-172-31-82-30.ec2.internal
[master] launch node 20 -> ip-172-31-92-28.ec2.internal
[master] launch node 21 -> ip-172-31-80-26.ec2.internal

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[master] launch node 22 -> ip-172-31-86-135.ec2.internal
[master] launch node 23 -> ip-172-31-86-133.ec2.internal
[master] launch node 24 -> ip-172-31-91-131.ec2.internal
[master] launch node 25 -> ip-172-31-88-131.ec2.internal
[master] launch node 26 -> ip-172-31-89-128.ec2.internal
[master] launch node 27 -> ip-172-31-81-128.ec2.internal
[master] launch node 28 -> ip-172-31-90-189.ec2.internal
[master] launch node 29 -> ip-172-31-85-188.ec2.internal
[master] launch node 30 -> ip-172-31-83-97.ec2.internal
[master] launch node 31 -> ip-172-31-80-159.ec2.internal
[master] launch node 32 -> ip-172-31-89-146.ec2.internal
[master] launch node 33 -> ip-172-31-81-145.ec2.internal
[master] launch node 34 -> ip-172-31-89-142.ec2.internal
[master] launch node 35 -> ip-172-31-83-138.ec2.internal
[master] launch node 36 -> ip-172-31-93-137.ec2.internal
[master] launch node 37 -> ip-172-31-90-136.ec2.internal
[master] launch node 38 -> ip-172-31-88-108.ec2.internal
[master] launch node 39 -> ip-172-31-91-107.ec2.internal
[master] launch node 40 -> ip-172-31-92-106.ec2.internal
[master] launch node 41 -> ip-172-31-88-105.ec2.internal
[master] launch node 42 -> ip-172-31-85-105.ec2.internal
[master] launch node 43 -> ip-172-31-85-100.ec2.internal
[master] launch node 44 -> ip-172-31-94-99.ec2.internal
[master] launch node 45 -> ip-172-31-82-98.ec2.internal
[master] launch node 46 -> ip-172-31-95-64.ec2.internal
[master] launch node 47 -> ip-172-31-95-122.ec2.internal
[master] launch node 48 -> ip-172-31-88-121.ec2.internal
[master] launch node 49 -> ip-172-31-82-118.ec2.internal
[master] launch node 50 -> ip-172-31-85-117.ec2.internal
[master] launch node 51 -> ip-172-31-84-116.ec2.internal
[master] launch node 52 -> ip-172-31-87-112.ec2.internal
[master] launch node 53 -> ip-172-31-88-110.ec2.internal
[master] launch node 54 -> ip-172-31-95-76.ec2.internal
[master] launch node 55 -> ip-172-31-93-76.ec2.internal
[master] launch node 56 -> ip-172-31-85-75.ec2.internal
[master] launch node 57 -> ip-172-31-83-73.ec2.internal
[master] launch node 58 -> ip-172-31-94-70.ec2.internal
[master] launch node 59 -> ip-172-31-95-70.ec2.internal
[master] launch node 60 -> ip-172-31-95-66.ec2.internal
[master] launch node 61 -> ip-172-31-88-66.ec2.internal
[master] launch node 62 -> ip-172-31-91-36.ec2.internal
[master] launch node 63 -> ip-172-31-94-95.ec2.internal
[master] launch node 64 -> ip-172-31-81-91.ec2.internal
[master] launch node 65 -> ip-172-31-81-88.ec2.internal
[master] launch node 66 -> ip-172-31-82-85.ec2.internal
[master] launch node 67 -> ip-172-31-82-83.ec2.internal
[master] launch node 68 -> ip-172-31-93-82.ec2.internal
[master] launch node 69 -> ip-172-31-85-81.ec2.internal
[master] launch node 70 -> ip-172-31-87-44.ec2.internal
[master] launch node 71 -> ip-172-31-82-43.ec2.internal
[master] launch node 72 -> ip-172-31-87-42.ec2.internal
[master] launch node 73 -> ip-172-31-81-42.ec2.internal
[master] launch node 74 -> ip-172-31-82-40.ec2.internal
[master] launch node 75 -> ip-172-31-95-39.ec2.internal
[master] launch node 76 -> ip-172-31-80-38.ec2.internal
[master] launch node 77 -> ip-172-31-86-36.ec2.internal
[master] launch node 78 -> ip-172-31-92-57.ec2.internal
[master] launch node 79 -> ip-172-31-85-57.ec2.internal
[master] launch node 80 -> ip-172-31-83-53.ec2.internal
[master] launch node 81 -> ip-172-31-82-51.ec2.internal
[master] launch node 82 -> ip-172-31-82-48.ec2.internal
[master] launch node 83 -> ip-172-31-93-48.ec2.internal
[master] launch node 84 -> ip-172-31-90-46.ec2.internal
[master] launch node 85 -> ip-172-31-95-45.ec2.internal
[master] launch node 86 -> ip-172-31-83-228.ec2.internal
[master] launch node 87 -> ip-172-31-90-225.ec2.internal
[master] launch node 88 -> ip-172-31-93-242.ec2.internal
[master] launch node 89 -> ip-172-31-92-241.ec2.internal
[master] launch node 90 -> ip-172-31-88-236.ec2.internal
[master] launch node 91 -> ip-172-31-92-235.ec2.internal
[master] launch node 92 -> ip-172-31-87-234.ec2.internal
[master] launch node 93 -> ip-172-31-83-231.ec2.internal
[master] launch node 94 -> ip-172-31-91-231.ec2.internal
[master] launch node 95 -> ip-172-31-88-229.ec2.internal
[master] launch node 96 -> ip-172-31-87-197.ec2.internal
[master] launch node 97 -> ip-172-31-87-193.ec2.internal
[master] launch node 98 -> ip-172-31-89-192.ec2.internal
[master] launch node 99 -> ip-172-31-92-255.ec2.internal
[master] launch node 100 -> ip-172-31-90-252.ec2.internal
[master] launch node 101 -> ip-172-31-88-252.ec2.internal
[master] launch node 102 -> ip-172-31-92-248.ec2.internal
[master] launch node 103 -> ip-172-31-85-244.ec2.internal
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[master] launch node 104 -> ip-172-31-93-212.ec2.internal
[master] launch node 105 -> ip-172-31-91-207.ec2.internal
[master] launch node 106 -> ip-172-31-91-203.ec2.internal
[master] launch node 107 -> ip-172-31-86-202.ec2.internal
[master] launch node 108 -> ip-172-31-83-201.ec2.internal
[master] launch node 109 -> ip-172-31-95-201.ec2.internal
[master] launch node 110 -> ip-172-31-81-201.ec2.internal
[master] launch node 111 -> ip-172-31-80-200.ec2.internal
[master] launch node 112 -> ip-172-31-80-162.ec2.internal
[master] launch node 113 -> ip-172-31-92-162.ec2.internal
[master] launch node 114 -> ip-172-31-90-160.ec2.internal
[master] launch node 115 -> ip-172-31-81-160.ec2.internal
[master] launch node 116 -> ip-172-31-92-160.ec2.internal
[master] launch node 117 -> ip-172-31-91-223.ec2.internal
[master] launch node 118 -> ip-172-31-86-216.ec2.internal
[master] launch node 119 -> ip-172-31-84-215.ec2.internal
[master] launch node 120 -> ip-172-31-86-186.ec2.internal
[master] launch node 121 -> ip-172-31-89-186.ec2.internal
[master] launch node 122 -> ip-172-31-88-181.ec2.internal
[master] launch node 123 -> ip-172-31-84-178.ec2.internal
[master] launch node 124 -> ip-172-31-83-172.ec2.internal
[master] launch node 125 -> ip-172-31-95-165.ec2.internal
[master] launch node 126 -> ip-172-31-83-164.ec2.internal
[master] launch node 127 -> ip-172-31-80-163.ec2.internal
[master] waiting for 128 node processes to finish...
[master] All node jobs finished (check logs under /mnt/efs/designs)
[master] Using fixed grid: ROWS=16 COLS=8 (tiles=128)
[master] Nodes: 128 (cores/node=8) Grid=16x8
[master] Resolve mode: private_dns AWS_REGION=default
[master] GDS=/mnt/efs/designs/gcd_array_125x125.gds
[master] RULES=/mnt/efs/designs/sky130_spacing.lrf
[master] OUTDIR=/mnt/efs/designs
[master] Die bbox=(0,0)-(14497500,14497500)
[master] TOTAL_W=14497501 BASE_W=1812187 REM_W=5
[master] TOTAL_H=14497501 BASE_H=906093 REM_H=13
[master] wrote /mnt/efs/designs/gcd1_drc_0.cmd tile[i=0, r=0, c=0] bbox=(0,0)-(1812187,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_1.cmd tile[i=1, r=0, c=1] bbox=(1812188,0)-(3624375,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_2.cmd tile[i=2, r=0, c=2] bbox=(3624376,0)-(5436563,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_3.cmd tile[i=3, r=0, c=3] bbox=(5436564,0)-(7248751,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_4.cmd tile[i=4, r=0, c=4] bbox=(7248752,0)-(9060939,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_5.cmd tile[i=5, r=0, c=5] bbox=(9060940,0)-(10873126,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_6.cmd tile[i=6, r=0, c=6] bbox=(10873127,0)-(12685313,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_7.cmd tile[i=7, r=0, c=7] bbox=(12685314,0)-(14497500,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_8.cmd tile[i=8, r=1, c=0] bbox=(0,906094)-(1812187,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_9.cmd tile[i=9, r=1, c=1] bbox=(1812188,906094)-(3624375,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_10.cmd tile[i=10, r=1, c=2] bbox=(3624376,906094)-(5436563,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_11.cmd tile[i=11, r=1, c=3] bbox=(5436564,906094)-(7248751,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_12.cmd tile[i=12, r=1, c=4] bbox=(7248752,906094)-(9060939,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_13.cmd tile[i=13, r=1, c=5] bbox=(9060940,906094)-(10873126,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_14.cmd tile[i=14, r=1, c=6] bbox=(10873127,906094)-(12685313,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_15.cmd tile[i=15, r=1, c=7] bbox=(12685314,906094)-(14497500,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_16.cmd tile[i=16, r=2, c=0] bbox=(0,1812188)-(1812187,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_17.cmd tile[i=17, r=2, c=1] bbox=(1812188,1812188)-(3624375,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_18.cmd tile[i=18, r=2, c=2] bbox=(3624376,1812188)-(5436563,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_19.cmd tile[i=19, r=2, c=3] bbox=(5436564,1812188)-(7248751,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_20.cmd tile[i=20, r=2, c=4] bbox=(7248752,1812188)-(9060939,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_21.cmd tile[i=21, r=2, c=5] bbox=(9060940,1812188)-(10873126,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_22.cmd tile[i=22, r=2, c=6] bbox=(10873127,1812188)-(12685313,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_23.cmd tile[i=23, r=2, c=7] bbox=(12685314,1812188)-(14497500,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_24.cmd tile[i=24, r=3, c=0] bbox=(0,2718282)-(1812187,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_25.cmd tile[i=25, r=3, c=1] bbox=(1812188,2718282)-(3624375,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_26.cmd tile[i=26, r=3, c=2] bbox=(3624376,2718282)-(5436563,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_27.cmd tile[i=27, r=3, c=3] bbox=(5436564,2718282)-(7248751,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_28.cmd tile[i=28, r=3, c=4] bbox=(7248752,2718282)-(9060939,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_29.cmd tile[i=29, r=3, c=5] bbox=(9060940,2718282)-(10873126,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_30.cmd tile[i=30, r=3, c=6] bbox=(10873127,2718282)-(12685313,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_31.cmd tile[i=31, r=3, c=7] bbox=(12685314,2718282)-(14497500,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_32.cmd tile[i=32, r=4, c=0] bbox=(0,3624376)-(1812187,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_33.cmd tile[i=33, r=4, c=1] bbox=(1812188,3624376)-(3624375,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_34.cmd tile[i=34, r=4, c=2] bbox=(3624376,3624376)-(5436563,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_35.cmd tile[i=35, r=4, c=3] bbox=(5436564,3624376)-(7248751,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_36.cmd tile[i=36, r=4, c=4] bbox=(7248752,3624376)-(9060939,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_37.cmd tile[i=37, r=4, c=5] bbox=(9060940,3624376)-(10873126,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_38.cmd tile[i=38, r=4, c=6] bbox=(10873127,3624376)-(12685313,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_39.cmd tile[i=39, r=4, c=7] bbox=(12685314,3624376)-(14497500,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_40.cmd tile[i=40, r=5, c=0] bbox=(0,4530470)-(1812187,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_41.cmd tile[i=41, r=5, c=1] bbox=(1812188,4530470)-(3624375,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_42.cmd tile[i=42, r=5, c=2] bbox=(3624376,4530470)-(5436563,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_43.cmd tile[i=43, r=5, c=3] bbox=(5436564,4530470)-(7248751,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_44.cmd tile[i=44, r=5, c=4] bbox=(7248752,4530470)-(9060939,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_45.cmd tile[i=45, r=5, c=5] bbox=(9060940,4530470)-(10873126,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_46.cmd tile[i=46, r=5, c=6] bbox=(10873127,4530470)-(12685313,5436563)
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[master] wrote /mnt/efs/designs/gcd1_drc_47.cmd tile[i=47, r=5, c=7] bbox=(12685314,4530470)-(14497500,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_48.cmd tile[i=48, r=6, c=0] bbox=(0,5436564)-(1812187,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_49.cmd tile[i=49, r=6, c=1] bbox=(1812188,5436564)-(3624375,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_50.cmd tile[i=50, r=6, c=2] bbox=(3624376,5436564)-(5436563,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_51.cmd tile[i=51, r=6, c=3] bbox=(5436564,5436564)-(7248751,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_52.cmd tile[i=52, r=6, c=4] bbox=(7248752,5436564)-(9060939,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_53.cmd tile[i=53, r=6, c=5] bbox=(9060940,5436564)-(10873126,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_54.cmd tile[i=54, r=6, c=6] bbox=(10873127,5436564)-(12685313,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_55.cmd tile[i=55, r=6, c=7] bbox=(12685314,5436564)-(14497500,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_56.cmd tile[i=56, r=7, c=0] bbox=(0,6342658)-(1812187,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_57.cmd tile[i=57, r=7, c=1] bbox=(1812188,6342658)-(3624375,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_58.cmd tile[i=58, r=7, c=2] bbox=(3624376,6342658)-(5436563,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_59.cmd tile[i=59, r=7, c=3] bbox=(5436564,6342658)-(7248751,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_60.cmd tile[i=60, r=7, c=4] bbox=(7248752,6342658)-(9060939,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_61.cmd tile[i=61, r=7, c=5] bbox=(9060940,6342658)-(10873126,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_62.cmd tile[i=62, r=7, c=6] bbox=(10873127,6342658)-(12685313,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_63.cmd tile[i=63, r=7, c=7] bbox=(12685314,6342658)-(14497500,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_64.cmd tile[i=64, r=8, c=0] bbox=(0,7248752)-(1812187,8154845)
[master] wrote /mnt/efs/designs/gcd1_drc_65.cmd tile[i=65, r=8, c=1] bbox=(1812188,7248752)-(3624375,8154845)
[master] wrote /mnt/efs/designs/gcd1_drc_66.cmd tile[i=66, r=8, c=2] bbox=(3624376,7248752)-(5436563,8154845)
[master] wrote /mnt/efs/designs/gcd1_drc_67.cmd tile[i=67, r=8, c=3] bbox=(5436564,7248752)-(7248751,8154845)
[master] wrote /mnt/efs/designs/gcd1_drc_68.cmd tile[i=68, r=8, c=4] bbox=(7248752,7248752)-(9060939,8154845)
[master] wrote /mnt/efs/designs/gcd1_drc_69.cmd tile[i=69, r=8, c=5] bbox=(9060940,7248752)-(10873126,8154845)
[master] wrote /mnt/efs/designs/gcd1_drc_70.cmd tile[i=70, r=8, c=6] bbox=(10873127,7248752)-(12685313,8154845)
[master] wrote /mnt/efs/designs/gcd1_drc_71.cmd tile[i=71, r=8, c=7] bbox=(12685314,7248752)-(14497500,8154845)
[master] wrote /mnt/efs/designs/gcd1_drc_72.cmd tile[i=72, r=9, c=0] bbox=(0,8154846)-(1812187,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_73.cmd tile[i=73, r=9, c=1] bbox=(1812188,8154846)-(3624375,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_74.cmd tile[i=74, r=9, c=2] bbox=(3624376,8154846)-(5436563,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_75.cmd tile[i=75, r=9, c=3] bbox=(5436564,8154846)-(7248751,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_76.cmd tile[i=76, r=9, c=4] bbox=(7248752,8154846)-(9060939,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_77.cmd tile[i=77, r=9, c=5] bbox=(9060940,8154846)-(10873126,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_78.cmd tile[i=78, r=9, c=6] bbox=(10873127,8154846)-(12685313,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_79.cmd tile[i=79, r=9, c=7] bbox=(12685314,8154846)-(14497500,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_80.cmd tile[i=80, r=10, c=0] bbox=(0,9060940)-(1812187,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_81.cmd tile[i=81, r=10, c=1] bbox=(1812188,9060940)-(3624375,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_82.cmd tile[i=82, r=10, c=2] bbox=(3624376,9060940)-(5436563,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_83.cmd tile[i=83, r=10, c=3] bbox=(5436564,9060940)-(7248751,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_84.cmd tile[i=84, r=10, c=4] bbox=(7248752,9060940)-(9060939,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_85.cmd tile[i=85, r=10, c=5] bbox=(9060940,9060940)-(10873126,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_86.cmd tile[i=86, r=10, c=6] bbox=(10873127,9060940)-(12685313,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_87.cmd tile[i=87, r=10, c=7] bbox=(12685314,9060940)-(14497500,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_88.cmd tile[i=88, r=11, c=0] bbox=(0,9967034)-(1812187,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_89.cmd tile[i=89, r=11, c=1] bbox=(1812188,9967034)-(3624375,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_90.cmd tile[i=90, r=11, c=2] bbox=(3624376,9967034)-(5436563,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_91.cmd tile[i=91, r=11, c=3] bbox=(5436564,9967034)-(7248751,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_92.cmd tile[i=92, r=11, c=4] bbox=(7248752,9967034)-(9060939,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_93.cmd tile[i=93, r=11, c=5] bbox=(9060940,9967034)-(10873126,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_94.cmd tile[i=94, r=11, c=6] bbox=(10873127,9967034)-(12685313,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_95.cmd tile[i=95, r=11, c=7] bbox=(12685314,9967034)-(14497500,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_96.cmd tile[i=96, r=12, c=0] bbox=(0,10873128)-(1812187,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_97.cmd tile[i=97, r=12, c=1] bbox=(1812188,10873128)-(3624375,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_98.cmd tile[i=98, r=12, c=2] bbox=(3624376,10873128)-(5436563,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_99.cmd tile[i=99, r=12, c=3] bbox=(5436564,10873128)-(7248751,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_100.cmd tile[i=100, r=12, c=4] bbox=(7248752,10873128)-(9060939,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_101.cmd tile[i=101, r=12, c=5] bbox=(9060940,10873128)-(10873126,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_102.cmd tile[i=102, r=12, c=6] bbox=(10873127,10873128)-(12685313,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_103.cmd tile[i=103, r=12, c=7] bbox=(12685314,10873128)-(14497500,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_104.cmd tile[i=104, r=13, c=0] bbox=(0,11779222)-(1812187,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_105.cmd tile[i=105, r=13, c=1] bbox=(1812188,11779222)-(3624375,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_106.cmd tile[i=106, r=13, c=2] bbox=(3624376,11779222)-(5436563,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_107.cmd tile[i=107, r=13, c=3] bbox=(5436564,11779222)-(7248751,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_108.cmd tile[i=108, r=13, c=4] bbox=(7248752,11779222)-(9060939,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_109.cmd tile[i=109, r=13, c=5] bbox=(9060940,11779222)-(10873126,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_110.cmd tile[i=110, r=13, c=6] bbox=(10873127,11779222)-(12685313,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_111.cmd tile[i=111, r=13, c=7] bbox=(12685314,11779222)-(14497500,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_112.cmd tile[i=112, r=14, c=0] bbox=(0,12685315)-(1812187,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_113.cmd tile[i=113, r=14, c=1] bbox=(1812188,12685315)-(3624375,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_114.cmd tile[i=114, r=14, c=2] bbox=(3624376,12685315)-(5436563,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_115.cmd tile[i=115, r=14, c=3] bbox=(5436564,12685315)-(7248751,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_116.cmd tile[i=116, r=14, c=4] bbox=(7248752,12685315)-(9060939,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_117.cmd tile[i=117, r=14, c=5] bbox=(9060940,12685315)-(10873126,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_118.cmd tile[i=118, r=14, c=6] bbox=(10873127,12685315)-(12685313,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_119.cmd tile[i=119, r=14, c=7] bbox=(12685314,12685315)-(14497500,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_120.cmd tile[i=120, r=15, c=0] bbox=(0,13591408)-(1812187,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_121.cmd tile[i=121, r=15, c=1] bbox=(1812188,13591408)-(3624375,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_122.cmd tile[i=122, r=15, c=2] bbox=(3624376,13591408)-(5436563,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_123.cmd tile[i=123, r=15, c=3] bbox=(5436564,13591408)-(7248751,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_124.cmd tile[i=124, r=15, c=4] bbox=(7248752,13591408)-(9060939,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_125.cmd tile[i=125, r=15, c=5] bbox=(9060940,13591408)-(10873126,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_126.cmd tile[i=126, r=15, c=6] bbox=(10873127,13591408)-(12685313,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_127.cmd tile[i=127, r=15, c=7] bbox=(12685314,13591408)-(14497500,14497500)
[master] launch node 0 -> ip-172-31-88-2.ec2.internal
```

```
[master] launch node 1 -> ip-172-31-90-2.ec2.internal
[master] launch node 2 -> ip-172-31-86-1.ec2.internal
[master] launch node 3 -> ip-172-31-95-0.ec2.internal
[master] launch node 4 -> ip-172-31-95-63.ec2.internal
[master] launch node 5 -> ip-172-31-80-62.ec2.internal
[master] launch node 6 -> ip-172-31-81-59.ec2.internal
[master] launch node 7 -> ip-172-31-86-58.ec2.internal
[master] launch node 8 -> ip-172-31-94-25.ec2.internal
[master] launch node 9 -> ip-172-31-95-24.ec2.internal
[master] launch node 10 -> ip-172-31-83-24.ec2.internal
[master] launch node 11 -> ip-172-31-82-20.ec2.internal
[master] launch node 12 -> ip-172-31-90-20.ec2.internal
[master] launch node 13 -> ip-172-31-94-16.ec2.internal
[master] launch node 14 -> ip-172-31-93-10.ec2.internal
[master] launch node 15 -> ip-172-31-95-5.ec2.internal
[master] launch node 16 -> ip-172-31-83-31.ec2.internal
[master] launch node 17 -> ip-172-31-80-30.ec2.internal
[master] launch node 18 -> ip-172-31-95-30.ec2.internal
[master] launch node 19 -> ip-172-31-82-30.ec2.internal
[master] launch node 20 -> ip-172-31-92-28.ec2.internal
[master] launch node 21 -> ip-172-31-80-26.ec2.internal
[master] launch node 22 -> ip-172-31-86-135.ec2.internal
[master] launch node 23 -> ip-172-31-86-133.ec2.internal
[master] launch node 24 -> ip-172-31-91-131.ec2.internal
[master] launch node 25 -> ip-172-31-88-131.ec2.internal
[master] launch node 26 -> ip-172-31-89-128.ec2.internal
[master] launch node 27 -> ip-172-31-81-128.ec2.internal
[master] launch node 28 -> ip-172-31-90-189.ec2.internal
[master] launch node 29 -> ip-172-31-85-188.ec2.internal
[master] launch node 30 -> ip-172-31-83-97.ec2.internal
[master] launch node 31 -> ip-172-31-80-159.ec2.internal
[master] launch node 32 -> ip-172-31-89-146.ec2.internal
[master] launch node 33 -> ip-172-31-81-145.ec2.internal
[master] launch node 34 -> ip-172-31-89-142.ec2.internal
[master] launch node 35 -> ip-172-31-83-138.ec2.internal
[master] launch node 36 -> ip-172-31-93-137.ec2.internal
[master] launch node 37 -> ip-172-31-90-136.ec2.internal
[master] launch node 38 -> ip-172-31-88-108.ec2.internal
[master] launch node 39 -> ip-172-31-91-107.ec2.internal
[master] launch node 40 -> ip-172-31-92-106.ec2.internal
[master] launch node 41 -> ip-172-31-88-105.ec2.internal
[master] launch node 42 -> ip-172-31-85-105.ec2.internal
[master] launch node 43 -> ip-172-31-85-100.ec2.internal
[master] launch node 44 -> ip-172-31-94-99.ec2.internal
[master] launch node 45 -> ip-172-31-82-98.ec2.internal
[master] launch node 46 -> ip-172-31-95-64.ec2.internal
[master] launch node 47 -> ip-172-31-95-122.ec2.internal
[master] launch node 48 -> ip-172-31-88-121.ec2.internal
[master] launch node 49 -> ip-172-31-82-118.ec2.internal
[master] launch node 50 -> ip-172-31-85-117.ec2.internal
[master] launch node 51 -> ip-172-31-84-116.ec2.internal
[master] launch node 52 -> ip-172-31-87-112.ec2.internal
[master] launch node 53 -> ip-172-31-88-110.ec2.internal
[master] launch node 54 -> ip-172-31-95-76.ec2.internal
[master] launch node 55 -> ip-172-31-93-76.ec2.internal
[master] launch node 56 -> ip-172-31-85-75.ec2.internal
[master] launch node 57 -> ip-172-31-83-73.ec2.internal
[master] launch node 58 -> ip-172-31-94-70.ec2.internal
[master] launch node 59 -> ip-172-31-95-70.ec2.internal
[master] launch node 60 -> ip-172-31-95-66.ec2.internal
[master] launch node 61 -> ip-172-31-88-66.ec2.internal
[master] launch node 62 -> ip-172-31-91-36.ec2.internal
[master] launch node 63 -> ip-172-31-94-95.ec2.internal
[master] launch node 64 -> ip-172-31-81-91.ec2.internal
[master] launch node 65 -> ip-172-31-81-88.ec2.internal
[master] launch node 66 -> ip-172-31-82-85.ec2.internal
[master] launch node 67 -> ip-172-31-82-83.ec2.internal
[master] launch node 68 -> ip-172-31-93-82.ec2.internal
[master] launch node 69 -> ip-172-31-85-81.ec2.internal
[master] launch node 70 -> ip-172-31-87-44.ec2.internal
[master] launch node 71 -> ip-172-31-82-43.ec2.internal
[master] launch node 72 -> ip-172-31-87-42.ec2.internal
[master] launch node 73 -> ip-172-31-81-42.ec2.internal
[master] launch node 74 -> ip-172-31-82-40.ec2.internal
[master] launch node 75 -> ip-172-31-95-39.ec2.internal
[master] launch node 76 -> ip-172-31-80-38.ec2.internal
[master] launch node 77 -> ip-172-31-86-36.ec2.internal
[master] launch node 78 -> ip-172-31-92-57.ec2.internal
[master] launch node 79 -> ip-172-31-85-57.ec2.internal
[master] launch node 80 -> ip-172-31-83-53.ec2.internal
[master] launch node 81 -> ip-172-31-82-51.ec2.internal
[master] launch node 82 -> ip-172-31-82-48.ec2.internal
```

```

[master] launch node 83 -> ip-172-31-93-48.ec2.internal
[master] launch node 84 -> ip-172-31-90-46.ec2.internal
[master] launch node 85 -> ip-172-31-95-45.ec2.internal
[master] launch node 86 -> ip-172-31-83-228.ec2.internal
[master] launch node 87 -> ip-172-31-90-225.ec2.internal
[master] launch node 88 -> ip-172-31-93-242.ec2.internal
[master] launch node 89 -> ip-172-31-92-241.ec2.internal
[master] launch node 90 -> ip-172-31-88-236.ec2.internal
[master] launch node 91 -> ip-172-31-92-235.ec2.internal
[master] launch node 92 -> ip-172-31-87-234.ec2.internal
[master] launch node 93 -> ip-172-31-83-231.ec2.internal
[master] launch node 94 -> ip-172-31-91-231.ec2.internal
[master] launch node 95 -> ip-172-31-88-229.ec2.internal
[master] launch node 96 -> ip-172-31-87-197.ec2.internal
[master] launch node 97 -> ip-172-31-87-193.ec2.internal
[master] launch node 98 -> ip-172-31-89-192.ec2.internal
[master] launch node 99 -> ip-172-31-92-255.ec2.internal
[master] launch node 100 -> ip-172-31-90-252.ec2.internal
[master] launch node 101 -> ip-172-31-88-252.ec2.internal
[master] launch node 102 -> ip-172-31-92-248.ec2.internal
[master] launch node 103 -> ip-172-31-85-244.ec2.internal
[master] launch node 104 -> ip-172-31-93-212.ec2.internal
[master] launch node 105 -> ip-172-31-91-207.ec2.internal
[master] launch node 106 -> ip-172-31-91-203.ec2.internal
[master] launch node 107 -> ip-172-31-86-202.ec2.internal
[master] launch node 108 -> ip-172-31-83-201.ec2.internal
[master] launch node 109 -> ip-172-31-95-201.ec2.internal
[master] launch node 110 -> ip-172-31-81-201.ec2.internal
[master] launch node 111 -> ip-172-31-80-200.ec2.internal
[master] launch node 112 -> ip-172-31-80-162.ec2.internal
[master] launch node 113 -> ip-172-31-92-162.ec2.internal
[master] launch node 114 -> ip-172-31-90-160.ec2.internal
[master] launch node 115 -> ip-172-31-81-160.ec2.internal
[master] launch node 116 -> ip-172-31-92-160.ec2.internal
[master] launch node 117 -> ip-172-31-91-223.ec2.internal
[master] launch node 118 -> ip-172-31-86-216.ec2.internal
[master] launch node 119 -> ip-172-31-84-215.ec2.internal
[master] launch node 120 -> ip-172-31-86-186.ec2.internal
[master] launch node 121 -> ip-172-31-89-186.ec2.internal
[master] launch node 122 -> ip-172-31-88-181.ec2.internal
[master] launch node 123 -> ip-172-31-84-178.ec2.internal
[master] launch node 124 -> ip-172-31-83-172.ec2.internal
[master] launch node 125 -> ip-172-31-95-165.ec2.internal
[master] launch node 126 -> ip-172-31-83-164.ec2.internal
[master] launch node 127 -> ip-172-31-80-163.ec2.internal
[master] waiting for 128 node processes to finish...
[master] All node jobs finished (check logs under /mnt/efs/designs)
[master] Using fixed grid: ROWS=16 COLS=8 (tiles=128)
[master] Nodes: 128 (cores/node=8) Grid=16x8
[master] Resolve mode: private_dns AWS_REGION=default
[master] GDS=/mnt/efs/designs/gcd1_array_125x125.gds
[master] RULES=/mnt/efs/designs/sky130_density_min.lrf
[master] OUTDIR=/mnt/efs/designs
[master] Die bbox=(0,0)-(14497500,14497500)
[master] TOTAL_W=14497501 BASE_W=1812187 REM_W=5
[master] TOTAL_H=14497501 BASE_H=906093 REM_H=13
[master] wrote /mnt/efs/designs/gcd1_drc_0.cmd tile[i=0, r=0, c=0] bbox=(0,0)-(1812187,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_1.cmd tile[i=1, r=0, c=1] bbox=(1812188,0)-(3624375,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_2.cmd tile[i=2, r=0, c=2] bbox=(3624376,0)-(5436563,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_3.cmd tile[i=3, r=0, c=3] bbox=(5436564,0)-(7248751,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_4.cmd tile[i=4, r=0, c=4] bbox=(7248752,0)-(9060939,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_5.cmd tile[i=5, r=0, c=5] bbox=(9060940,0)-(10873126,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_6.cmd tile[i=6, r=0, c=6] bbox=(10873127,0)-(12685313,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_7.cmd tile[i=7, r=0, c=7] bbox=(12685314,0)-(14497500,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_8.cmd tile[i=8, r=1, c=0] bbox=(0,906094)-(1812187,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_9.cmd tile[i=9, r=1, c=1] bbox=(1812188,906094)-(3624375,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_10.cmd tile[i=10, r=1, c=2] bbox=(3624376,906094)-(5436563,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_11.cmd tile[i=11, r=1, c=3] bbox=(5436564,906094)-(7248751,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_12.cmd tile[i=12, r=1, c=4] bbox=(7248752,906094)-(9060939,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_13.cmd tile[i=13, r=1, c=5] bbox=(9060940,906094)-(10873126,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_14.cmd tile[i=14, r=1, c=6] bbox=(10873127,906094)-(12685313,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_15.cmd tile[i=15, r=1, c=7] bbox=(12685314,906094)-(14497500,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_16.cmd tile[i=16, r=2, c=0] bbox=(0,1812188)-(1812187,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_17.cmd tile[i=17, r=2, c=1] bbox=(1812188,1812188)-(3624375,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_18.cmd tile[i=18, r=2, c=2] bbox=(3624376,1812188)-(5436563,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_19.cmd tile[i=19, r=2, c=3] bbox=(5436564,1812188)-(7248751,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_20.cmd tile[i=20, r=2, c=4] bbox=(7248752,1812188)-(9060939,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_21.cmd tile[i=21, r=2, c=5] bbox=(9060940,1812188)-(10873126,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_22.cmd tile[i=22, r=2, c=6] bbox=(10873127,1812188)-(12685313,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_23.cmd tile[i=23, r=2, c=7] bbox=(12685314,1812188)-(14497500,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_24.cmd tile[i=24, r=3, c=0] bbox=(0,2718282)-(1812187,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_25.cmd tile[i=25, r=3, c=1] bbox=(1812188,2718282)-(3624375,3624375)

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31

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[master] wrote /mnt/efs/designs/gcd1_drc_108.cmd tile[i=108, r=13, c=4] bbox=(7248752,11779222)-(9060939,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_109.cmd tile[i=109, r=13, c=5] bbox=(9060940,11779222)-(10873126,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_110.cmd tile[i=110, r=13, c=6] bbox=(10873127,11779222)-(12685313,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_111.cmd tile[i=111, r=13, c=7] bbox=(12685314,11779222)-(14497500,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_112.cmd tile[i=112, r=14, c=0] bbox=(0,12685315)-(1812187,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_113.cmd tile[i=113, r=14, c=1] bbox=(1812188,12685315)-(3624375,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_114.cmd tile[i=114, r=14, c=2] bbox=(3624376,12685315)-(5436563,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_115.cmd tile[i=115, r=14, c=3] bbox=(5436564,12685315)-(7248751,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_116.cmd tile[i=116, r=14, c=4] bbox=(7248752,12685315)-(9060939,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_117.cmd tile[i=117, r=14, c=5] bbox=(9060940,12685315)-(10873126,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_118.cmd tile[i=118, r=14, c=6] bbox=(10873127,12685315)-(12685313,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_119.cmd tile[i=119, r=14, c=7] bbox=(12685314,12685315)-(14497500,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_120.cmd tile[i=120, r=15, c=0] bbox=(0,13591408)-(1812187,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_121.cmd tile[i=121, r=15, c=1] bbox=(1812188,13591408)-(3624375,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_122.cmd tile[i=122, r=15, c=2] bbox=(3624376,13591408)-(5436563,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_123.cmd tile[i=123, r=15, c=3] bbox=(5436564,13591408)-(7248751,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_124.cmd tile[i=124, r=15, c=4] bbox=(7248752,13591408)-(9060939,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_125.cmd tile[i=125, r=15, c=5] bbox=(9060940,13591408)-(10873126,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_126.cmd tile[i=126, r=15, c=6] bbox=(10873127,13591408)-(12685313,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_127.cmd tile[i=127, r=15, c=7] bbox=(12685314,13591408)-(14497500,14497500)
[master] launch node 0 -> ip-172-31-88-2.ec2.internal
[master] launch node 1 -> ip-172-31-90-2.ec2.internal
[master] launch node 2 -> ip-172-31-86-1.ec2.internal
[master] launch node 3 -> ip-172-31-95-0.ec2.internal
[master] launch node 4 -> ip-172-31-95-63.ec2.internal
[master] launch node 5 -> ip-172-31-80-62.ec2.internal
[master] launch node 6 -> ip-172-31-81-59.ec2.internal
[master] launch node 7 -> ip-172-31-86-58.ec2.internal
[master] launch node 8 -> ip-172-31-94-25.ec2.internal
[master] launch node 9 -> ip-172-31-95-24.ec2.internal
[master] launch node 10 -> ip-172-31-83-24.ec2.internal
[master] launch node 11 -> ip-172-31-82-20.ec2.internal
[master] launch node 12 -> ip-172-31-90-20.ec2.internal
[master] launch node 13 -> ip-172-31-94-16.ec2.internal
[master] launch node 14 -> ip-172-31-93-10.ec2.internal
[master] launch node 15 -> ip-172-31-95-5.ec2.internal
[master] launch node 16 -> ip-172-31-83-31.ec2.internal
[master] launch node 17 -> ip-172-31-80-30.ec2.internal
[master] launch node 18 -> ip-172-31-95-30.ec2.internal
[master] launch node 19 -> ip-172-31-82-30.ec2.internal
[master] launch node 20 -> ip-172-31-92-28.ec2.internal
[master] launch node 21 -> ip-172-31-80-26.ec2.internal
[master] launch node 22 -> ip-172-31-86-135.ec2.internal
[master] launch node 23 -> ip-172-31-86-133.ec2.internal
[master] launch node 24 -> ip-172-31-91-131.ec2.internal
[master] launch node 25 -> ip-172-31-88-131.ec2.internal
[master] launch node 26 -> ip-172-31-89-128.ec2.internal
[master] launch node 27 -> ip-172-31-81-128.ec2.internal
[master] launch node 28 -> ip-172-31-90-189.ec2.internal
[master] launch node 29 -> ip-172-31-85-188.ec2.internal
[master] launch node 30 -> ip-172-31-83-97.ec2.internal
[master] launch node 31 -> ip-172-31-80-159.ec2.internal
[master] launch node 32 -> ip-172-31-89-146.ec2.internal
[master] launch node 33 -> ip-172-31-81-145.ec2.internal
[master] launch node 34 -> ip-172-31-89-142.ec2.internal
[master] launch node 35 -> ip-172-31-83-138.ec2.internal
[master] launch node 36 -> ip-172-31-93-137.ec2.internal
[master] launch node 37 -> ip-172-31-90-136.ec2.internal
[master] launch node 38 -> ip-172-31-88-108.ec2.internal
[master] launch node 39 -> ip-172-31-91-107.ec2.internal
[master] launch node 40 -> ip-172-31-92-106.ec2.internal
[master] launch node 41 -> ip-172-31-88-105.ec2.internal
[master] launch node 42 -> ip-172-31-85-105.ec2.internal
[master] launch node 43 -> ip-172-31-85-100.ec2.internal
[master] launch node 44 -> ip-172-31-94-99.ec2.internal
[master] launch node 45 -> ip-172-31-82-98.ec2.internal
[master] launch node 46 -> ip-172-31-95-64.ec2.internal
[master] launch node 47 -> ip-172-31-95-122.ec2.internal
[master] launch node 48 -> ip-172-31-88-121.ec2.internal
[master] launch node 49 -> ip-172-31-82-118.ec2.internal
[master] launch node 50 -> ip-172-31-85-117.ec2.internal
[master] launch node 51 -> ip-172-31-84-116.ec2.internal
[master] launch node 52 -> ip-172-31-87-112.ec2.internal
[master] launch node 53 -> ip-172-31-88-110.ec2.internal
[master] launch node 54 -> ip-172-31-95-76.ec2.internal
[master] launch node 55 -> ip-172-31-93-76.ec2.internal
[master] launch node 56 -> ip-172-31-85-75.ec2.internal
[master] launch node 57 -> ip-172-31-83-73.ec2.internal
[master] launch node 58 -> ip-172-31-94-70.ec2.internal
[master] launch node 59 -> ip-172-31-95-70.ec2.internal
[master] launch node 60 -> ip-172-31-95-66.ec2.internal
[master] launch node 61 -> ip-172-31-88-66.ec2.internal
```

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[master] launch node 62 -> ip-172-31-91-36.ec2.internal
[master] launch node 63 -> ip-172-31-94-95.ec2.internal
[master] launch node 64 -> ip-172-31-81-91.ec2.internal
[master] launch node 65 -> ip-172-31-81-88.ec2.internal
[master] launch node 66 -> ip-172-31-82-85.ec2.internal
[master] launch node 67 -> ip-172-31-82-83.ec2.internal
[master] launch node 68 -> ip-172-31-93-82.ec2.internal
[master] launch node 69 -> ip-172-31-85-81.ec2.internal
[master] launch node 70 -> ip-172-31-87-44.ec2.internal
[master] launch node 71 -> ip-172-31-82-43.ec2.internal
[master] launch node 72 -> ip-172-31-87-42.ec2.internal
[master] launch node 73 -> ip-172-31-81-42.ec2.internal
[master] launch node 74 -> ip-172-31-82-40.ec2.internal
[master] launch node 75 -> ip-172-31-95-39.ec2.internal
[master] launch node 76 -> ip-172-31-80-38.ec2.internal
[master] launch node 77 -> ip-172-31-86-36.ec2.internal
[master] launch node 78 -> ip-172-31-92-57.ec2.internal
[master] launch node 79 -> ip-172-31-85-57.ec2.internal
[master] launch node 80 -> ip-172-31-83-53.ec2.internal
[master] launch node 81 -> ip-172-31-82-51.ec2.internal
[master] launch node 82 -> ip-172-31-82-48.ec2.internal
[master] launch node 83 -> ip-172-31-93-48.ec2.internal
[master] launch node 84 -> ip-172-31-90-46.ec2.internal
[master] launch node 85 -> ip-172-31-95-45.ec2.internal
[master] launch node 86 -> ip-172-31-83-228.ec2.internal
[master] launch node 87 -> ip-172-31-90-225.ec2.internal
[master] launch node 88 -> ip-172-31-93-242.ec2.internal
[master] launch node 89 -> ip-172-31-92-241.ec2.internal
[master] launch node 90 -> ip-172-31-88-236.ec2.internal
[master] launch node 91 -> ip-172-31-92-235.ec2.internal
[master] launch node 92 -> ip-172-31-87-234.ec2.internal
[master] launch node 93 -> ip-172-31-83-231.ec2.internal
[master] launch node 94 -> ip-172-31-91-231.ec2.internal
[master] launch node 95 -> ip-172-31-88-229.ec2.internal
[master] launch node 96 -> ip-172-31-87-197.ec2.internal
[master] launch node 97 -> ip-172-31-87-193.ec2.internal
[master] launch node 98 -> ip-172-31-89-192.ec2.internal
[master] launch node 99 -> ip-172-31-92-255.ec2.internal
[master] launch node 100 -> ip-172-31-90-252.ec2.internal
[master] launch node 101 -> ip-172-31-88-252.ec2.internal
[master] launch node 102 -> ip-172-31-92-248.ec2.internal
[master] launch node 103 -> ip-172-31-85-244.ec2.internal
[master] launch node 104 -> ip-172-31-93-212.ec2.internal
[master] launch node 105 -> ip-172-31-91-207.ec2.internal
[master] launch node 106 -> ip-172-31-91-203.ec2.internal
[master] launch node 107 -> ip-172-31-86-202.ec2.internal
[master] launch node 108 -> ip-172-31-83-201.ec2.internal
[master] launch node 109 -> ip-172-31-95-201.ec2.internal
[master] launch node 110 -> ip-172-31-81-201.ec2.internal
[master] launch node 111 -> ip-172-31-80-200.ec2.internal
[master] launch node 112 -> ip-172-31-80-162.ec2.internal
[master] launch node 113 -> ip-172-31-92-162.ec2.internal
[master] launch node 114 -> ip-172-31-90-160.ec2.internal
[master] launch node 115 -> ip-172-31-81-160.ec2.internal
[master] launch node 116 -> ip-172-31-92-160.ec2.internal
[master] launch node 117 -> ip-172-31-91-223.ec2.internal
[master] launch node 118 -> ip-172-31-86-216.ec2.internal
[master] launch node 119 -> ip-172-31-84-215.ec2.internal
[master] launch node 120 -> ip-172-31-86-186.ec2.internal
[master] launch node 121 -> ip-172-31-89-186.ec2.internal
[master] launch node 122 -> ip-172-31-88-181.ec2.internal
[master] launch node 123 -> ip-172-31-84-178.ec2.internal
[master] launch node 124 -> ip-172-31-83-172.ec2.internal
[master] launch node 125 -> ip-172-31-95-165.ec2.internal
[master] launch node 126 -> ip-172-31-83-164.ec2.internal
[master] launch node 127 -> ip-172-31-80-163.ec2.internal
[master] waiting for 128 node processes to finish...
[master] All node jobs finished (check logs under /mnt/efs/designs)
[master] Using fixed grid: ROWS=16 COLS=8 (tiles=128)
[master] Nodes: 128 (cores/node=8) Grid=16x8
[master] Resolve mode: private_dns AWS_REGION=default
[master] GDS=/mnt/efs/designs/gcd1_array_125x125.gds
[master] RULES=/mnt/efs/designs/sky130_density_max.lrf
[master] OUTDIR=/mnt/efs/designs
[master] Die bbox=(0,0)-(14497500,14497500)
[master] TOTAL_W=14497501 BASE_W=1812187 REM_W=5
[master] TOTAL_H=14497501 BASE_H=906093 REM_H=13
[master] wrote /mnt/efs/designs/gcd1_drc_0.cmd tile[i=0, r=0, c=0] bbox=(0,0)-(1812187,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_1.cmd tile[i=1, r=0, c=1] bbox=(1812188,0)-(3624375,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_2.cmd tile[i=2, r=0, c=2] bbox=(3624376,0)-(5436563,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_3.cmd tile[i=3, r=0, c=3] bbox=(5436564,0)-(7248751,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_4.cmd tile[i=4, r=0, c=4] bbox=(7248752,0)-(9060939,906093)

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34

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[master] wrote /mnt/efs/designs/gcd1_drc_87.cmd tile[i=87, r=10, c=7] bbox=(12685314,9060940)-(14497500,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_88.cmd tile[i=88, r=11, c=0] bbox=(0,9967034)-(1812187,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_89.cmd tile[i=89, r=11, c=1] bbox=(1812188,9967034)-(3624375,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_90.cmd tile[i=90, r=11, c=2] bbox=(3624376,9967034)-(5436563,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_91.cmd tile[i=91, r=11, c=3] bbox=(5436564,9967034)-(7248751,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_92.cmd tile[i=92, r=11, c=4] bbox=(7248752,9967034)-(9060939,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_93.cmd tile[i=93, r=11, c=5] bbox=(9060940,9967034)-(10873126,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_94.cmd tile[i=94, r=11, c=6] bbox=(10873127,9967034)-(12685313,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_95.cmd tile[i=95, r=11, c=7] bbox=(12685314,9967034)-(14497500,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_96.cmd tile[i=96, r=12, c=0] bbox=(0,10873128)-(1812187,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_97.cmd tile[i=97, r=12, c=1] bbox=(1812188,10873128)-(3624375,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_98.cmd tile[i=98, r=12, c=2] bbox=(3624376,10873128)-(5436563,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_99.cmd tile[i=99, r=12, c=3] bbox=(5436564,10873128)-(7248751,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_100.cmd tile[i=100, r=12, c=4] bbox=(7248752,10873128)-(9060939,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_101.cmd tile[i=101, r=12, c=5] bbox=(9060940,10873128)-(10873126,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_102.cmd tile[i=102, r=12, c=6] bbox=(10873127,10873128)-(12685313,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_103.cmd tile[i=103, r=12, c=7] bbox=(12685314,10873128)-(14497500,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_104.cmd tile[i=104, r=13, c=0] bbox=(0,11779222)-(1812187,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_105.cmd tile[i=105, r=13, c=1] bbox=(1812188,11779222)-(3624375,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_106.cmd tile[i=106, r=13, c=2] bbox=(3624376,11779222)-(5436563,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_107.cmd tile[i=107, r=13, c=3] bbox=(5436564,11779222)-(7248751,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_108.cmd tile[i=108, r=13, c=4] bbox=(7248752,11779222)-(9060939,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_109.cmd tile[i=109, r=13, c=5] bbox=(9060940,11779222)-(10873126,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_110.cmd tile[i=110, r=13, c=6] bbox=(10873127,11779222)-(12685313,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_111.cmd tile[i=111, r=13, c=7] bbox=(12685314,11779222)-(14497500,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_112.cmd tile[i=112, r=14, c=0] bbox=(0,12685315)-(1812187,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_113.cmd tile[i=113, r=14, c=1] bbox=(1812188,12685315)-(3624375,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_114.cmd tile[i=114, r=14, c=2] bbox=(3624376,12685315)-(5436563,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_115.cmd tile[i=115, r=14, c=3] bbox=(5436564,12685315)-(7248751,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_116.cmd tile[i=116, r=14, c=4] bbox=(7248752,12685315)-(9060939,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_117.cmd tile[i=117, r=14, c=5] bbox=(9060940,12685315)-(10873126,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_118.cmd tile[i=118, r=14, c=6] bbox=(10873127,12685315)-(12685313,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_119.cmd tile[i=119, r=14, c=7] bbox=(12685314,12685315)-(14497500,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_120.cmd tile[i=120, r=15, c=0] bbox=(0,13591408)-(1812187,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_121.cmd tile[i=121, r=15, c=1] bbox=(1812188,13591408)-(3624375,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_122.cmd tile[i=122, r=15, c=2] bbox=(3624376,13591408)-(5436563,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_123.cmd tile[i=123, r=15, c=3] bbox=(5436564,13591408)-(7248751,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_124.cmd tile[i=124, r=15, c=4] bbox=(7248752,13591408)-(9060939,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_125.cmd tile[i=125, r=15, c=5] bbox=(9060940,13591408)-(10873126,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_126.cmd tile[i=126, r=15, c=6] bbox=(10873127,13591408)-(12685313,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_127.cmd tile[i=127, r=15, c=7] bbox=(12685314,13591408)-(14497500,14497500)
[master] launch node 0 -> ip-172-31-88-2.ec2.internal
[master] launch node 1 -> ip-172-31-90-2.ec2.internal
[master] launch node 2 -> ip-172-31-86-1.ec2.internal
[master] launch node 3 -> ip-172-31-95-0.ec2.internal
[master] launch node 4 -> ip-172-31-95-63.ec2.internal
[master] launch node 5 -> ip-172-31-80-62.ec2.internal
[master] launch node 6 -> ip-172-31-81-59.ec2.internal
[master] launch node 7 -> ip-172-31-86-58.ec2.internal
[master] launch node 8 -> ip-172-31-94-25.ec2.internal
[master] launch node 9 -> ip-172-31-95-24.ec2.internal
[master] launch node 10 -> ip-172-31-83-24.ec2.internal
[master] launch node 11 -> ip-172-31-82-20.ec2.internal
[master] launch node 12 -> ip-172-31-90-20.ec2.internal
[master] launch node 13 -> ip-172-31-94-16.ec2.internal
[master] launch node 14 -> ip-172-31-93-10.ec2.internal
[master] launch node 15 -> ip-172-31-95-5.ec2.internal
[master] launch node 16 -> ip-172-31-83-31.ec2.internal
[master] launch node 17 -> ip-172-31-80-30.ec2.internal
[master] launch node 18 -> ip-172-31-95-30.ec2.internal
[master] launch node 19 -> ip-172-31-82-30.ec2.internal
[master] launch node 20 -> ip-172-31-92-28.ec2.internal
[master] launch node 21 -> ip-172-31-80-26.ec2.internal
[master] launch node 22 -> ip-172-31-86-135.ec2.internal
[master] launch node 23 -> ip-172-31-86-133.ec2.internal
[master] launch node 24 -> ip-172-31-91-131.ec2.internal
[master] launch node 25 -> ip-172-31-88-131.ec2.internal
[master] launch node 26 -> ip-172-31-89-128.ec2.internal
[master] launch node 27 -> ip-172-31-81-128.ec2.internal
[master] launch node 28 -> ip-172-31-90-189.ec2.internal
[master] launch node 29 -> ip-172-31-85-188.ec2.internal
[master] launch node 30 -> ip-172-31-83-97.ec2.internal
[master] launch node 31 -> ip-172-31-80-159.ec2.internal
[master] launch node 32 -> ip-172-31-89-146.ec2.internal
[master] launch node 33 -> ip-172-31-81-145.ec2.internal
[master] launch node 34 -> ip-172-31-89-142.ec2.internal
[master] launch node 35 -> ip-172-31-83-138.ec2.internal
[master] launch node 36 -> ip-172-31-93-137.ec2.internal
[master] launch node 37 -> ip-172-31-90-136.ec2.internal
[master] launch node 38 -> ip-172-31-88-108.ec2.internal
[master] launch node 39 -> ip-172-31-91-107.ec2.internal
[master] launch node 40 -> ip-172-31-92-106.ec2.internal

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[master] launch node 41 -> ip-172-31-88-105.ec2.internal
[master] launch node 42 -> ip-172-31-85-105.ec2.internal
[master] launch node 43 -> ip-172-31-85-100.ec2.internal
[master] launch node 44 -> ip-172-31-94-99.ec2.internal
[master] launch node 45 -> ip-172-31-82-98.ec2.internal
[master] launch node 46 -> ip-172-31-95-64.ec2.internal
[master] launch node 47 -> ip-172-31-95-122.ec2.internal
[master] launch node 48 -> ip-172-31-88-121.ec2.internal
[master] launch node 49 -> ip-172-31-82-118.ec2.internal
[master] launch node 50 -> ip-172-31-85-117.ec2.internal
[master] launch node 51 -> ip-172-31-84-116.ec2.internal
[master] launch node 52 -> ip-172-31-87-112.ec2.internal
[master] launch node 53 -> ip-172-31-88-110.ec2.internal
[master] launch node 54 -> ip-172-31-95-76.ec2.internal
[master] launch node 55 -> ip-172-31-93-76.ec2.internal
[master] launch node 56 -> ip-172-31-85-75.ec2.internal
[master] launch node 57 -> ip-172-31-83-73.ec2.internal
[master] launch node 58 -> ip-172-31-94-70.ec2.internal
[master] launch node 59 -> ip-172-31-95-70.ec2.internal
[master] launch node 60 -> ip-172-31-95-66.ec2.internal
[master] launch node 61 -> ip-172-31-88-66.ec2.internal
[master] launch node 62 -> ip-172-31-91-36.ec2.internal
[master] launch node 63 -> ip-172-31-94-95.ec2.internal
[master] launch node 64 -> ip-172-31-81-91.ec2.internal
[master] launch node 65 -> ip-172-31-81-88.ec2.internal
[master] launch node 66 -> ip-172-31-82-85.ec2.internal
[master] launch node 67 -> ip-172-31-82-83.ec2.internal
[master] launch node 68 -> ip-172-31-93-82.ec2.internal
[master] launch node 69 -> ip-172-31-85-81.ec2.internal
[master] launch node 70 -> ip-172-31-87-44.ec2.internal
[master] launch node 71 -> ip-172-31-82-43.ec2.internal
[master] launch node 72 -> ip-172-31-87-42.ec2.internal
[master] launch node 73 -> ip-172-31-81-42.ec2.internal
[master] launch node 74 -> ip-172-31-82-40.ec2.internal
[master] launch node 75 -> ip-172-31-95-39.ec2.internal
[master] launch node 76 -> ip-172-31-80-38.ec2.internal
[master] launch node 77 -> ip-172-31-86-36.ec2.internal
[master] launch node 78 -> ip-172-31-92-57.ec2.internal
[master] launch node 79 -> ip-172-31-85-57.ec2.internal
[master] launch node 80 -> ip-172-31-83-53.ec2.internal
[master] launch node 81 -> ip-172-31-82-51.ec2.internal
[master] launch node 82 -> ip-172-31-82-48.ec2.internal
[master] launch node 83 -> ip-172-31-93-48.ec2.internal
[master] launch node 84 -> ip-172-31-90-46.ec2.internal
[master] launch node 85 -> ip-172-31-95-45.ec2.internal
[master] launch node 86 -> ip-172-31-83-228.ec2.internal
[master] launch node 87 -> ip-172-31-90-225.ec2.internal
[master] launch node 88 -> ip-172-31-93-242.ec2.internal
[master] launch node 89 -> ip-172-31-92-241.ec2.internal
[master] launch node 90 -> ip-172-31-88-236.ec2.internal
[master] launch node 91 -> ip-172-31-92-235.ec2.internal
[master] launch node 92 -> ip-172-31-87-234.ec2.internal
[master] launch node 93 -> ip-172-31-83-231.ec2.internal
[master] launch node 94 -> ip-172-31-91-231.ec2.internal
[master] launch node 95 -> ip-172-31-88-229.ec2.internal
[master] launch node 96 -> ip-172-31-87-197.ec2.internal
[master] launch node 97 -> ip-172-31-87-193.ec2.internal
[master] launch node 98 -> ip-172-31-89-192.ec2.internal
[master] launch node 99 -> ip-172-31-92-255.ec2.internal
[master] launch node 100 -> ip-172-31-90-252.ec2.internal
[master] launch node 101 -> ip-172-31-88-252.ec2.internal
[master] launch node 102 -> ip-172-31-92-248.ec2.internal
[master] launch node 103 -> ip-172-31-85-244.ec2.internal
[master] launch node 104 -> ip-172-31-93-212.ec2.internal
[master] launch node 105 -> ip-172-31-91-207.ec2.internal
[master] launch node 106 -> ip-172-31-91-203.ec2.internal
[master] launch node 107 -> ip-172-31-86-202.ec2.internal
[master] launch node 108 -> ip-172-31-83-201.ec2.internal
[master] launch node 109 -> ip-172-31-95-201.ec2.internal
[master] launch node 110 -> ip-172-31-81-201.ec2.internal
[master] launch node 111 -> ip-172-31-80-200.ec2.internal
[master] launch node 112 -> ip-172-31-80-162.ec2.internal
[master] launch node 113 -> ip-172-31-92-162.ec2.internal
[master] launch node 114 -> ip-172-31-90-160.ec2.internal
[master] launch node 115 -> ip-172-31-81-160.ec2.internal
[master] launch node 116 -> ip-172-31-92-160.ec2.internal
[master] launch node 117 -> ip-172-31-91-223.ec2.internal
[master] launch node 118 -> ip-172-31-86-216.ec2.internal
[master] launch node 119 -> ip-172-31-84-215.ec2.internal
[master] launch node 120 -> ip-172-31-86-186.ec2.internal
[master] launch node 121 -> ip-172-31-89-186.ec2.internal
[master] launch node 122 -> ip-172-31-88-181.ec2.internal
```

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[master] launch node 123 -> ip-172-31-84-178.ec2.internal
[master] launch node 124 -> ip-172-31-83-172.ec2.internal
[master] launch node 125 -> ip-172-31-95-165.ec2.internal
[master] launch node 126 -> ip-172-31-83-164.ec2.internal
[master] launch node 127 -> ip-172-31-80-163.ec2.internal
[master] waiting for 128 node processes to finish...
[master] All node jobs finished (check logs under /mnt/efs/designs)
[master] Using fixed grid: ROWS=16 COLS=8 (tiles=128)
[master] Nodes: 128 (cores/node=8) Grid=16x8
[master] Resolve mode: private_dns AWS_REGION=default
[master] GDS=/mnt/efs/designs/gcd_array_125x125.gds
[master] RULES=/mnt/efs/designs/sky130_density_min_max.lrf
[master] OUTDIR=/mnt/efs/designs
[master] Die bbox=(0,0)-(14497500,14497500)
[master] TOTAL_W=14497501 BASE_W=1812187 REM_W=5
[master] TOTAL_H=14497501 BASE_H=906093 REM_H=13
[master] wrote /mnt/efs/designs/gcd1_drc_0.cmd tile[i=0, r=0, c=0] bbox=(0,0)-(1812187,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_1.cmd tile[i=1, r=0, c=1] bbox=(1812188,0)-(3624375,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_2.cmd tile[i=2, r=0, c=2] bbox=(3624376,0)-(5436563,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_3.cmd tile[i=3, r=0, c=3] bbox=(5436564,0)-(7248751,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_4.cmd tile[i=4, r=0, c=4] bbox=(7248752,0)-(9060939,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_5.cmd tile[i=5, r=0, c=5] bbox=(9060940,0)-(10873126,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_6.cmd tile[i=6, r=0, c=6] bbox=(10873127,0)-(12685313,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_7.cmd tile[i=7, r=0, c=7] bbox=(12685314,0)-(14497500,906093)
[master] wrote /mnt/efs/designs/gcd1_drc_8.cmd tile[i=8, r=1, c=0] bbox=(0,906094)-(1812187,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_9.cmd tile[i=9, r=1, c=1] bbox=(1812188,906094)-(3624375,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_10.cmd tile[i=10, r=1, c=2] bbox=(3624376,906094)-(5436563,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_11.cmd tile[i=11, r=1, c=3] bbox=(5436564,906094)-(7248751,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_12.cmd tile[i=12, r=1, c=4] bbox=(7248752,906094)-(9060939,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_13.cmd tile[i=13, r=1, c=5] bbox=(9060940,906094)-(10873126,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_14.cmd tile[i=14, r=1, c=6] bbox=(10873127,906094)-(12685313,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_15.cmd tile[i=15, r=1, c=7] bbox=(12685314,906094)-(14497500,1812187)
[master] wrote /mnt/efs/designs/gcd1_drc_16.cmd tile[i=16, r=2, c=0] bbox=(0,1812188)-(1812187,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_17.cmd tile[i=17, r=2, c=1] bbox=(1812188,1812188)-(3624375,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_18.cmd tile[i=18, r=2, c=2] bbox=(3624376,1812188)-(5436563,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_19.cmd tile[i=19, r=2, c=3] bbox=(5436564,1812188)-(7248751,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_20.cmd tile[i=20, r=2, c=4] bbox=(7248752,1812188)-(9060939,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_21.cmd tile[i=21, r=2, c=5] bbox=(9060940,1812188)-(10873126,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_22.cmd tile[i=22, r=2, c=6] bbox=(10873127,1812188)-(12685313,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_23.cmd tile[i=23, r=2, c=7] bbox=(12685314,1812188)-(14497500,2718281)
[master] wrote /mnt/efs/designs/gcd1_drc_24.cmd tile[i=24, r=3, c=0] bbox=(0,2718282)-(1812187,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_25.cmd tile[i=25, r=3, c=1] bbox=(1812188,2718282)-(3624375,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_26.cmd tile[i=26, r=3, c=2] bbox=(3624376,2718282)-(5436563,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_27.cmd tile[i=27, r=3, c=3] bbox=(5436564,2718282)-(7248751,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_28.cmd tile[i=28, r=3, c=4] bbox=(7248752,2718282)-(9060939,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_29.cmd tile[i=29, r=3, c=5] bbox=(9060940,2718282)-(10873126,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_30.cmd tile[i=30, r=3, c=6] bbox=(10873127,2718282)-(12685313,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_31.cmd tile[i=31, r=3, c=7] bbox=(12685314,2718282)-(14497500,3624375)
[master] wrote /mnt/efs/designs/gcd1_drc_32.cmd tile[i=32, r=4, c=0] bbox=(0,3624376)-(1812187,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_33.cmd tile[i=33, r=4, c=1] bbox=(1812188,3624376)-(3624375,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_34.cmd tile[i=34, r=4, c=2] bbox=(3624376,3624376)-(5436563,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_35.cmd tile[i=35, r=4, c=3] bbox=(5436564,3624376)-(7248751,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_36.cmd tile[i=36, r=4, c=4] bbox=(7248752,3624376)-(9060939,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_37.cmd tile[i=37, r=4, c=5] bbox=(9060940,3624376)-(10873126,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_38.cmd tile[i=38, r=4, c=6] bbox=(10873127,3624376)-(12685313,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_39.cmd tile[i=39, r=4, c=7] bbox=(12685314,3624376)-(14497500,4530469)
[master] wrote /mnt/efs/designs/gcd1_drc_40.cmd tile[i=40, r=5, c=0] bbox=(0,4530470)-(1812187,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_41.cmd tile[i=41, r=5, c=1] bbox=(1812188,4530470)-(3624375,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_42.cmd tile[i=42, r=5, c=2] bbox=(3624376,4530470)-(5436563,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_43.cmd tile[i=43, r=5, c=3] bbox=(5436564,4530470)-(7248751,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_44.cmd tile[i=44, r=5, c=4] bbox=(7248752,4530470)-(9060939,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_45.cmd tile[i=45, r=5, c=5] bbox=(9060940,4530470)-(10873126,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_46.cmd tile[i=46, r=5, c=6] bbox=(10873127,4530470)-(12685313,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_47.cmd tile[i=47, r=5, c=7] bbox=(12685314,4530470)-(14497500,5436563)
[master] wrote /mnt/efs/designs/gcd1_drc_48.cmd tile[i=48, r=6, c=0] bbox=(0,5436564)-(1812187,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_49.cmd tile[i=49, r=6, c=1] bbox=(1812188,5436564)-(3624375,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_50.cmd tile[i=50, r=6, c=2] bbox=(3624376,5436564)-(5436563,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_51.cmd tile[i=51, r=6, c=3] bbox=(5436564,5436564)-(7248751,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_52.cmd tile[i=52, r=6, c=4] bbox=(7248752,5436564)-(9060939,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_53.cmd tile[i=53, r=6, c=5] bbox=(9060940,5436564)-(10873126,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_54.cmd tile[i=54, r=6, c=6] bbox=(10873127,5436564)-(12685313,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_55.cmd tile[i=55, r=6, c=7] bbox=(12685314,5436564)-(14497500,6342657)
[master] wrote /mnt/efs/designs/gcd1_drc_56.cmd tile[i=56, r=7, c=0] bbox=(0,6342658)-(1812187,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_57.cmd tile[i=57, r=7, c=1] bbox=(1812188,6342658)-(3624375,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_58.cmd tile[i=58, r=7, c=2] bbox=(3624376,6342658)-(5436563,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_59.cmd tile[i=59, r=7, c=3] bbox=(5436564,6342658)-(7248751,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_60.cmd tile[i=60, r=7, c=4] bbox=(7248752,6342658)-(9060939,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_61.cmd tile[i=61, r=7, c=5] bbox=(9060940,6342658)-(10873126,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_62.cmd tile[i=62, r=7, c=6] bbox=(10873127,6342658)-(12685313,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_63.cmd tile[i=63, r=7, c=7] bbox=(12685314,6342658)-(14497500,7248751)
[master] wrote /mnt/efs/designs/gcd1_drc_64.cmd tile[i=64, r=8, c=0] bbox=(0,7248752)-(1812187,8154845)
[master] wrote /mnt/efs/designs/gcd1_drc_65.cmd tile[i=65, r=8, c=1] bbox=(1812188,7248752)-(3624375,8154845)
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[master] wrote /mnt/efs/designs/gcd1_drc_66.cmd tile[i=66, r=8, c=2] bbox=(3624376,7248752)-(5436563,8154845)
[master] wrote /mnt/efs/designs/gcd1_drc_67.cmd tile[i=67, r=8, c=3] bbox=(5436564,7248752)-(7248751,8154845)
[master] wrote /mnt/efs/designs/gcd1_drc_68.cmd tile[i=68, r=8, c=4] bbox=(7248752,7248752)-(9060939,8154845)
[master] wrote /mnt/efs/designs/gcd1_drc_69.cmd tile[i=69, r=8, c=5] bbox=(9060940,7248752)-(10873126,8154845)
[master] wrote /mnt/efs/designs/gcd1_drc_70.cmd tile[i=70, r=8, c=6] bbox=(10873127,7248752)-(12685313,8154845)
[master] wrote /mnt/efs/designs/gcd1_drc_71.cmd tile[i=71, r=8, c=7] bbox=(12685314,7248752)-(14497500,8154845)
[master] wrote /mnt/efs/designs/gcd1_drc_72.cmd tile[i=72, r=9, c=0] bbox=(0,8154846)-(1812187,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_73.cmd tile[i=73, r=9, c=1] bbox=(1812188,8154846)-(3624375,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_74.cmd tile[i=74, r=9, c=2] bbox=(3624376,8154846)-(5436563,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_75.cmd tile[i=75, r=9, c=3] bbox=(5436564,8154846)-(7248751,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_76.cmd tile[i=76, r=9, c=4] bbox=(7248752,8154846)-(9060939,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_77.cmd tile[i=77, r=9, c=5] bbox=(9060940,8154846)-(10873126,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_78.cmd tile[i=78, r=9, c=6] bbox=(10873127,8154846)-(12685313,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_79.cmd tile[i=79, r=9, c=7] bbox=(12685314,8154846)-(14497500,9060939)
[master] wrote /mnt/efs/designs/gcd1_drc_80.cmd tile[i=80, r=10, c=0] bbox=(0,9060940)-(1812187,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_81.cmd tile[i=81, r=10, c=1] bbox=(1812188,9060940)-(3624375,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_82.cmd tile[i=82, r=10, c=2] bbox=(3624376,9060940)-(5436563,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_83.cmd tile[i=83, r=10, c=3] bbox=(5436564,9060940)-(7248751,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_84.cmd tile[i=84, r=10, c=4] bbox=(7248752,9060940)-(9060939,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_85.cmd tile[i=85, r=10, c=5] bbox=(9060940,9060940)-(10873126,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_86.cmd tile[i=86, r=10, c=6] bbox=(10873127,9060940)-(12685313,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_87.cmd tile[i=87, r=10, c=7] bbox=(12685314,9060940)-(14497500,9967033)
[master] wrote /mnt/efs/designs/gcd1_drc_88.cmd tile[i=88, r=11, c=0] bbox=(0,9967034)-(1812187,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_89.cmd tile[i=89, r=11, c=1] bbox=(1812188,9967034)-(3624375,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_90.cmd tile[i=90, r=11, c=2] bbox=(3624376,9967034)-(5436563,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_91.cmd tile[i=91, r=11, c=3] bbox=(5436564,9967034)-(7248751,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_92.cmd tile[i=92, r=11, c=4] bbox=(7248752,9967034)-(9060939,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_93.cmd tile[i=93, r=11, c=5] bbox=(9060940,9967034)-(10873126,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_94.cmd tile[i=94, r=11, c=6] bbox=(10873127,9967034)-(12685313,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_95.cmd tile[i=95, r=11, c=7] bbox=(12685314,9967034)-(14497500,10873127)
[master] wrote /mnt/efs/designs/gcd1_drc_96.cmd tile[i=96, r=12, c=0] bbox=(0,10873128)-(1812187,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_97.cmd tile[i=97, r=12, c=1] bbox=(1812188,10873128)-(3624375,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_98.cmd tile[i=98, r=12, c=2] bbox=(3624376,10873128)-(5436563,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_99.cmd tile[i=99, r=12, c=3] bbox=(5436564,10873128)-(7248751,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_100.cmd tile[i=100, r=12, c=4] bbox=(7248752,10873128)-(9060939,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_101.cmd tile[i=101, r=12, c=5] bbox=(9060940,10873128)-(10873126,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_102.cmd tile[i=102, r=12, c=6] bbox=(10873127,10873128)-(12685313,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_103.cmd tile[i=103, r=12, c=7] bbox=(12685314,10873128)-(14497500,11779221)
[master] wrote /mnt/efs/designs/gcd1_drc_104.cmd tile[i=104, r=13, c=0] bbox=(0,11779222)-(1812187,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_105.cmd tile[i=105, r=13, c=1] bbox=(1812188,11779222)-(3624375,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_106.cmd tile[i=106, r=13, c=2] bbox=(3624376,11779222)-(5436563,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_107.cmd tile[i=107, r=13, c=3] bbox=(5436564,11779222)-(7248751,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_108.cmd tile[i=108, r=13, c=4] bbox=(7248752,11779222)-(9060939,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_109.cmd tile[i=109, r=13, c=5] bbox=(9060940,11779222)-(10873126,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_110.cmd tile[i=110, r=13, c=6] bbox=(10873127,11779222)-(12685313,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_111.cmd tile[i=111, r=13, c=7] bbox=(12685314,11779222)-(14497500,12685314)
[master] wrote /mnt/efs/designs/gcd1_drc_112.cmd tile[i=112, r=14, c=0] bbox=(0,12685315)-(1812187,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_113.cmd tile[i=113, r=14, c=1] bbox=(1812188,12685315)-(3624375,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_114.cmd tile[i=114, r=14, c=2] bbox=(3624376,12685315)-(5436563,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_115.cmd tile[i=115, r=14, c=3] bbox=(5436564,12685315)-(7248751,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_116.cmd tile[i=116, r=14, c=4] bbox=(7248752,12685315)-(9060939,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_117.cmd tile[i=117, r=14, c=5] bbox=(9060940,12685315)-(10873126,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_118.cmd tile[i=118, r=14, c=6] bbox=(10873127,12685315)-(12685313,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_119.cmd tile[i=119, r=14, c=7] bbox=(12685314,12685315)-(14497500,13591407)
[master] wrote /mnt/efs/designs/gcd1_drc_120.cmd tile[i=120, r=15, c=0] bbox=(0,13591408)-(1812187,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_121.cmd tile[i=121, r=15, c=1] bbox=(1812188,13591408)-(3624375,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_122.cmd tile[i=122, r=15, c=2] bbox=(3624376,13591408)-(5436563,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_123.cmd tile[i=123, r=15, c=3] bbox=(5436564,13591408)-(7248751,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_124.cmd tile[i=124, r=15, c=4] bbox=(7248752,13591408)-(9060939,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_125.cmd tile[i=125, r=15, c=5] bbox=(9060940,13591408)-(10873126,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_126.cmd tile[i=126, r=15, c=6] bbox=(10873127,13591408)-(12685313,14497500)
[master] wrote /mnt/efs/designs/gcd1_drc_127.cmd tile[i=127, r=15, c=7] bbox=(12685314,13591408)-(14497500,14497500)
[master] launch node 0 -> ip-172-31-88-2.ec2.internal
[master] launch node 1 -> ip-172-31-90-2.ec2.internal
[master] launch node 2 -> ip-172-31-86-1.ec2.internal
[master] launch node 3 -> ip-172-31-95-0.ec2.internal
[master] launch node 4 -> ip-172-31-95-63.ec2.internal
[master] launch node 5 -> ip-172-31-80-62.ec2.internal
[master] launch node 6 -> ip-172-31-81-59.ec2.internal
[master] launch node 7 -> ip-172-31-86-58.ec2.internal
[master] launch node 8 -> ip-172-31-94-25.ec2.internal
[master] launch node 9 -> ip-172-31-95-24.ec2.internal
[master] launch node 10 -> ip-172-31-83-24.ec2.internal
[master] launch node 11 -> ip-172-31-82-20.ec2.internal
[master] launch node 12 -> ip-172-31-90-20.ec2.internal
[master] launch node 13 -> ip-172-31-94-16.ec2.internal
[master] launch node 14 -> ip-172-31-93-10.ec2.internal
[master] launch node 15 -> ip-172-31-95-5.ec2.internal
[master] launch node 16 -> ip-172-31-83-31.ec2.internal
[master] launch node 17 -> ip-172-31-80-30.ec2.internal
[master] launch node 18 -> ip-172-31-95-30.ec2.internal
[master] launch node 19 -> ip-172-31-82-30.ec2.internal

```

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[master] launch node 20 -> ip-172-31-92-28.ec2.internal
[master] launch node 21 -> ip-172-31-80-26.ec2.internal
[master] launch node 22 -> ip-172-31-86-135.ec2.internal
[master] launch node 23 -> ip-172-31-86-133.ec2.internal
[master] launch node 24 -> ip-172-31-91-131.ec2.internal
[master] launch node 25 -> ip-172-31-88-131.ec2.internal
[master] launch node 26 -> ip-172-31-89-128.ec2.internal
[master] launch node 27 -> ip-172-31-81-128.ec2.internal
[master] launch node 28 -> ip-172-31-90-189.ec2.internal
[master] launch node 29 -> ip-172-31-85-188.ec2.internal
[master] launch node 30 -> ip-172-31-83-97.ec2.internal
[master] launch node 31 -> ip-172-31-80-159.ec2.internal
[master] launch node 32 -> ip-172-31-89-146.ec2.internal
[master] launch node 33 -> ip-172-31-81-145.ec2.internal
[master] launch node 34 -> ip-172-31-89-142.ec2.internal
[master] launch node 35 -> ip-172-31-83-138.ec2.internal
[master] launch node 36 -> ip-172-31-93-137.ec2.internal
[master] launch node 37 -> ip-172-31-90-136.ec2.internal
[master] launch node 38 -> ip-172-31-88-108.ec2.internal
[master] launch node 39 -> ip-172-31-91-107.ec2.internal
[master] launch node 40 -> ip-172-31-92-106.ec2.internal
[master] launch node 41 -> ip-172-31-88-105.ec2.internal
[master] launch node 42 -> ip-172-31-85-105.ec2.internal
[master] launch node 43 -> ip-172-31-85-100.ec2.internal
[master] launch node 44 -> ip-172-31-94-99.ec2.internal
[master] launch node 45 -> ip-172-31-82-98.ec2.internal
[master] launch node 46 -> ip-172-31-95-64.ec2.internal
[master] launch node 47 -> ip-172-31-95-122.ec2.internal
[master] launch node 48 -> ip-172-31-88-121.ec2.internal
[master] launch node 49 -> ip-172-31-82-118.ec2.internal
[master] launch node 50 -> ip-172-31-85-117.ec2.internal
[master] launch node 51 -> ip-172-31-84-116.ec2.internal
[master] launch node 52 -> ip-172-31-87-112.ec2.internal
[master] launch node 53 -> ip-172-31-88-110.ec2.internal
[master] launch node 54 -> ip-172-31-95-76.ec2.internal
[master] launch node 55 -> ip-172-31-93-76.ec2.internal
[master] launch node 56 -> ip-172-31-85-75.ec2.internal
[master] launch node 57 -> ip-172-31-83-73.ec2.internal
[master] launch node 58 -> ip-172-31-94-70.ec2.internal
[master] launch node 59 -> ip-172-31-95-70.ec2.internal
[master] launch node 60 -> ip-172-31-95-66.ec2.internal
[master] launch node 61 -> ip-172-31-88-66.ec2.internal
[master] launch node 62 -> ip-172-31-91-36.ec2.internal
[master] launch node 63 -> ip-172-31-94-95.ec2.internal
[master] launch node 64 -> ip-172-31-81-91.ec2.internal
[master] launch node 65 -> ip-172-31-81-88.ec2.internal
[master] launch node 66 -> ip-172-31-82-85.ec2.internal
[master] launch node 67 -> ip-172-31-82-83.ec2.internal
[master] launch node 68 -> ip-172-31-93-82.ec2.internal
[master] launch node 69 -> ip-172-31-85-81.ec2.internal
[master] launch node 70 -> ip-172-31-87-44.ec2.internal
[master] launch node 71 -> ip-172-31-82-43.ec2.internal
[master] launch node 72 -> ip-172-31-87-42.ec2.internal
[master] launch node 73 -> ip-172-31-81-42.ec2.internal
[master] launch node 74 -> ip-172-31-82-40.ec2.internal
[master] launch node 75 -> ip-172-31-95-39.ec2.internal
[master] launch node 76 -> ip-172-31-80-38.ec2.internal
[master] launch node 77 -> ip-172-31-86-36.ec2.internal
[master] launch node 78 -> ip-172-31-92-57.ec2.internal
[master] launch node 79 -> ip-172-31-85-57.ec2.internal
[master] launch node 80 -> ip-172-31-83-53.ec2.internal
[master] launch node 81 -> ip-172-31-82-51.ec2.internal
[master] launch node 82 -> ip-172-31-82-48.ec2.internal
[master] launch node 83 -> ip-172-31-93-48.ec2.internal
[master] launch node 84 -> ip-172-31-90-46.ec2.internal
[master] launch node 85 -> ip-172-31-95-45.ec2.internal
[master] launch node 86 -> ip-172-31-83-228.ec2.internal
[master] launch node 87 -> ip-172-31-90-225.ec2.internal
[master] launch node 88 -> ip-172-31-93-242.ec2.internal
[master] launch node 89 -> ip-172-31-92-241.ec2.internal
[master] launch node 90 -> ip-172-31-88-236.ec2.internal
[master] launch node 91 -> ip-172-31-92-235.ec2.internal
[master] launch node 92 -> ip-172-31-87-234.ec2.internal
[master] launch node 93 -> ip-172-31-83-231.ec2.internal
[master] launch node 94 -> ip-172-31-91-231.ec2.internal
[master] launch node 95 -> ip-172-31-88-229.ec2.internal
[master] launch node 96 -> ip-172-31-87-197.ec2.internal
[master] launch node 97 -> ip-172-31-87-193.ec2.internal
[master] launch node 98 -> ip-172-31-89-192.ec2.internal
[master] launch node 99 -> ip-172-31-92-255.ec2.internal
[master] launch node 100 -> ip-172-31-90-252.ec2.internal
[master] launch node 101 -> ip-172-31-88-252.ec2.internal
```

```
[master] launch node 102 -> ip-172-31-92-248.ec2.internal
[master] launch node 103 -> ip-172-31-85-244.ec2.internal
[master] launch node 104 -> ip-172-31-93-212.ec2.internal
[master] launch node 105 -> ip-172-31-91-207.ec2.internal
[master] launch node 106 -> ip-172-31-91-203.ec2.internal
[master] launch node 107 -> ip-172-31-86-202.ec2.internal
[master] launch node 108 -> ip-172-31-83-201.ec2.internal
[master] launch node 109 -> ip-172-31-95-201.ec2.internal
[master] launch node 110 -> ip-172-31-81-201.ec2.internal
[master] launch node 111 -> ip-172-31-80-200.ec2.internal
[master] launch node 112 -> ip-172-31-80-162.ec2.internal
[master] launch node 113 -> ip-172-31-92-162.ec2.internal
[master] launch node 114 -> ip-172-31-90-160.ec2.internal
[master] launch node 115 -> ip-172-31-81-160.ec2.internal
[master] launch node 116 -> ip-172-31-92-160.ec2.internal
[master] launch node 117 -> ip-172-31-91-223.ec2.internal
[master] launch node 118 -> ip-172-31-86-216.ec2.internal
[master] launch node 119 -> ip-172-31-84-215.ec2.internal
[master] launch node 120 -> ip-172-31-86-186.ec2.internal
[master] launch node 121 -> ip-172-31-89-186.ec2.internal
[master] launch node 122 -> ip-172-31-88-181.ec2.internal
[master] launch node 123 -> ip-172-31-84-178.ec2.internal
[master] launch node 124 -> ip-172-31-83-172.ec2.internal
[master] launch node 125 -> ip-172-31-95-165.ec2.internal
[master] launch node 126 -> ip-172-31-83-164.ec2.internal
[master] launch node 127 -> ip-172-31-80-163.ec2.internal
[master] waiting for 128 node processes to finish...
[master] All node jobs finished (check logs under /mnt/efs/designs)
```

```

[master] Using fixed grid: ROWS=16 COLS=8 (tiles=128)
[master] Nodes: 128 (cores/node=8) Grid=16x8
[master] Resolve mode: private_dns AWS_REGION=default
[master] GDS=/mnt/efs/designs/gcd_array_400x400.gds
[master] RULES=/mnt/efs/designs/sky130_xor.lrf
[master] OUTDIR=/mnt/efs/designs
[master] Die bbox=(0,0)-(46414000,46414000)
[master] TOTAL_W=46414001 BASE_W=5801750 REM_W=1
[master] TOTAL_H=46414001 BASE_H=2900875 REM_H=1
[master] wrote /mnt/efs/designs/gcd1_drc_0.cmd tile[i=0, r=0, c=0] bbox=(0,0)-(5801750,2900875)
[master] wrote /mnt/efs/designs/gcd1_drc_1.cmd tile[i=1, r=0, c=1] bbox=(5801751,0)-(11603500,2900875)
[master] wrote /mnt/efs/designs/gcd1_drc_2.cmd tile[i=2, r=0, c=2] bbox=(11603501,0)-(17405250,2900875)
[master] wrote /mnt/efs/designs/gcd1_drc_3.cmd tile[i=3, r=0, c=3] bbox=(17405251,0)-(23207000,2900875)
[master] wrote /mnt/efs/designs/gcd1_drc_4.cmd tile[i=4, r=0, c=4] bbox=(23207001,0)-(29008750,2900875)
[master] wrote /mnt/efs/designs/gcd1_drc_5.cmd tile[i=5, r=0, c=5] bbox=(29008751,0)-(34810500,2900875)
[master] wrote /mnt/efs/designs/gcd1_drc_6.cmd tile[i=6, r=0, c=6] bbox=(34810501,0)-(40612250,2900875)
[master] wrote /mnt/efs/designs/gcd1_drc_7.cmd tile[i=7, r=0, c=7] bbox=(40612251,0)-(46414000,2900875)
[master] wrote /mnt/efs/designs/gcd1_drc_8.cmd tile[i=8, r=1, c=0] bbox=(0,2900876)-(5801750,5801750)
[master] wrote /mnt/efs/designs/gcd1_drc_9.cmd tile[i=9, r=1, c=1] bbox=(5801751,2900876)-(11603500,5801750)
[master] wrote /mnt/efs/designs/gcd1_drc_10.cmd tile[i=10, r=1, c=2] bbox=(11603501,2900876)-(17405250,5801750)
[master] wrote /mnt/efs/designs/gcd1_drc_11.cmd tile[i=11, r=1, c=3] bbox=(17405251,2900876)-(23207000,5801750)
[master] wrote /mnt/efs/designs/gcd1_drc_12.cmd tile[i=12, r=1, c=4] bbox=(23207001,2900876)-(29008750,5801750)
[master] wrote /mnt/efs/designs/gcd1_drc_13.cmd tile[i=13, r=1, c=5] bbox=(29008751,2900876)-(34810500,5801750)
[master] wrote /mnt/efs/designs/gcd1_drc_14.cmd tile[i=14, r=1, c=6] bbox=(34810501,2900876)-(40612250,5801750)
[master] wrote /mnt/efs/designs/gcd1_drc_15.cmd tile[i=15, r=1, c=7] bbox=(40612251,2900876)-(46414000,5801750)
[master] wrote /mnt/efs/designs/gcd1_drc_16.cmd tile[i=16, r=2, c=0] bbox=(0,5801751)-(5801750,8702625)
[master] wrote /mnt/efs/designs/gcd1_drc_17.cmd tile[i=17, r=2, c=1] bbox=(5801751,5801751)-(11603500,8702625)
[master] wrote /mnt/efs/designs/gcd1_drc_18.cmd tile[i=18, r=2, c=2] bbox=(11603501,5801751)-(17405250,8702625)
[master] wrote /mnt/efs/designs/gcd1_drc_19.cmd tile[i=19, r=2, c=3] bbox=(17405251,5801751)-(23207000,8702625)
[master] wrote /mnt/efs/designs/gcd1_drc_20.cmd tile[i=20, r=2, c=4] bbox=(23207001,5801751)-(29008750,8702625)
[master] wrote /mnt/efs/designs/gcd1_drc_21.cmd tile[i=21, r=2, c=5] bbox=(29008751,5801751)-(34810500,8702625)
[master] wrote /mnt/efs/designs/gcd1_drc_22.cmd tile[i=22, r=2, c=6] bbox=(34810501,5801751)-(40612250,8702625)
[master] wrote /mnt/efs/designs/gcd1_drc_23.cmd tile[i=23, r=2, c=7] bbox=(40612251,5801751)-(46414000,8702625)
[master] wrote /mnt/efs/designs/gcd1_drc_24.cmd tile[i=24, r=3, c=0] bbox=(0,8702626)-(5801750,11603500)
[master] wrote /mnt/efs/designs/gcd1_drc_25.cmd tile[i=25, r=3, c=1] bbox=(5801751,8702626)-(11603500,11603500)
[master] wrote /mnt/efs/designs/gcd1_drc_26.cmd tile[i=26, r=3, c=2] bbox=(11603501,8702626)-(17405250,11603500)
[master] wrote /mnt/efs/designs/gcd1_drc_27.cmd tile[i=27, r=3, c=3] bbox=(17405251,8702626)-(23207000,11603500)
[master] wrote /mnt/efs/designs/gcd1_drc_28.cmd tile[i=28, r=3, c=4] bbox=(23207001,8702626)-(29008750,11603500)
[master] wrote /mnt/efs/designs/gcd1_drc_29.cmd tile[i=29, r=3, c=5] bbox=(29008751,8702626)-(34810500,11603500)
[master] wrote /mnt/efs/designs/gcd1_drc_30.cmd tile[i=30, r=3, c=6] bbox=(34810501,8702626)-(40612250,11603500)
[master] wrote /mnt/efs/designs/gcd1_drc_31.cmd tile[i=31, r=3, c=7] bbox=(40612251,8702626)-(46414000,11603500)
[master] wrote /mnt/efs/designs/gcd1_drc_32.cmd tile[i=32, r=4, c=0] bbox=(0,11603501)-(5801750,14504375)
[master] wrote /mnt/efs/designs/gcd1_drc_33.cmd tile[i=33, r=4, c=1] bbox=(5801751,11603501)-(11603500,14504375)
[master] wrote /mnt/efs/designs/gcd1_drc_34.cmd tile[i=34, r=4, c=2] bbox=(11603501,11603501)-(17405250,14504375)
[master] wrote /mnt/efs/designs/gcd1_drc_35.cmd tile[i=35, r=4, c=3] bbox=(17405251,11603501)-(23207000,14504375)
[master] wrote /mnt/efs/designs/gcd1_drc_36.cmd tile[i=36, r=4, c=4] bbox=(23207001,11603501)-(29008750,14504375)
[master] wrote /mnt/efs/designs/gcd1_drc_37.cmd tile[i=37, r=4, c=5] bbox=(29008751,11603501)-(34810500,14504375)
[master] wrote /mnt/efs/designs/gcd1_drc_38.cmd tile[i=38, r=4, c=6] bbox=(34810501,11603501)-(40612250,14504375)
[master] wrote /mnt/efs/designs/gcd1_drc_39.cmd tile[i=39, r=4, c=7] bbox=(40612251,11603501)-(46414000,14504375)
[master] wrote /mnt/efs/designs/gcd1_drc_40.cmd tile[i=40, r=5, c=0] bbox=(0,14504376)-(5801750,17405250)
[master] wrote /mnt/efs/designs/gcd1_drc_41.cmd tile[i=41, r=5, c=1] bbox=(5801751,14504376)-(11603500,17405250)
[master] wrote /mnt/efs/designs/gcd1_drc_42.cmd tile[i=42, r=5, c=2] bbox=(11603501,14504376)-(17405250,17405250)
[master] wrote /mnt/efs/designs/gcd1_drc_43.cmd tile[i=43, r=5, c=3] bbox=(17405251,14504376)-(23207000,17405250)
[master] wrote /mnt/efs/designs/gcd1_drc_44.cmd tile[i=44, r=5, c=4] bbox=(23207001,14504376)-(29008750,17405250)
[master] wrote /mnt/efs/designs/gcd1_drc_45.cmd tile[i=45, r=5, c=5] bbox=(29008751,14504376)-(34810500,17405250)
[master] wrote /mnt/efs/designs/gcd1_drc_46.cmd tile[i=46, r=5, c=6] bbox=(34810501,14504376)-(40612250,17405250)
[master] wrote /mnt/efs/designs/gcd1_drc_47.cmd tile[i=47, r=5, c=7] bbox=(40612251,14504376)-(46414000,17405250)
[master] wrote /mnt/efs/designs/gcd1_drc_48.cmd tile[i=48, r=6, c=0] bbox=(0,17405251)-(5801750,20306125)
[master] wrote /mnt/efs/designs/gcd1_drc_49.cmd tile[i=49, r=6, c=1] bbox=(5801751,17405251)-(11603500,20306125)
[master] wrote /mnt/efs/designs/gcd1_drc_50.cmd tile[i=50, r=6, c=2] bbox=(11603501,17405251)-(17405250,20306125)
[master] wrote /mnt/efs/designs/gcd1_drc_51.cmd tile[i=51, r=6, c=3] bbox=(17405251,17405251)-(23207000,20306125)
[master] wrote /mnt/efs/designs/gcd1_drc_52.cmd tile[i=52, r=6, c=4] bbox=(23207001,17405251)-(29008750,20306125)
[master] wrote /mnt/efs/designs/gcd1_drc_53.cmd tile[i=53, r=6, c=5] bbox=(29008751,17405251)-(34810500,20306125)
[master] wrote /mnt/efs/designs/gcd1_drc_54.cmd tile[i=54, r=6, c=6] bbox=(34810501,17405251)-(40612250,20306125)
[master] wrote /mnt/efs/designs/gcd1_drc_55.cmd tile[i=55, r=6, c=7] bbox=(40612251,17405251)-(46414000,20306125)
[master] wrote /mnt/efs/designs/gcd1_drc_56.cmd tile[i=56, r=7, c=0] bbox=(0,20306126)-(5801750,23207000)
[master] wrote /mnt/efs/designs/gcd1_drc_57.cmd tile[i=57, r=7, c=1] bbox=(5801751,20306126)-(11603500,23207000)
[master] wrote /mnt/efs/designs/gcd1_drc_58.cmd tile[i=58, r=7, c=2] bbox=(11603501,20306126)-(17405250,23207000)
[master] wrote /mnt/efs/designs/gcd1_drc_59.cmd tile[i=59, r=7, c=3] bbox=(17405251,20306126)-(23207000,23207000)
[master] wrote /mnt/efs/designs/gcd1_drc_60.cmd tile[i=60, r=7, c=4] bbox=(23207001,20306126)-(29008750,23207000)
[master] wrote /mnt/efs/designs/gcd1_drc_61.cmd tile[i=61, r=7, c=5] bbox=(29008751,20306126)-(34810500,23207000)
[master] wrote /mnt/efs/designs/gcd1_drc_62.cmd tile[i=62, r=7, c=6] bbox=(34810501,20306126)-(40612250,23207000)
[master] wrote /mnt/efs/designs/gcd1_drc_63.cmd tile[i=63, r=7, c=7] bbox=(40612251,20306126)-(46414000,23207000)
[master] wrote /mnt/efs/designs/gcd1_drc_64.cmd tile[i=64, r=8, c=0] bbox=(0,23207001)-(5801750,26107875)
[master] wrote /mnt/efs/designs/gcd1_drc_65.cmd tile[i=65, r=8, c=1] bbox=(5801751,23207001)-(11603500,26107875)
[master] wrote /mnt/efs/designs/gcd1_drc_66.cmd tile[i=66, r=8, c=2] bbox=(11603501,23207001)-(17405250,26107875)
[master] wrote /mnt/efs/designs/gcd1_drc_67.cmd tile[i=67, r=8, c=3] bbox=(17405251,23207001)-(23207000,26107875)
[master] wrote /mnt/efs/designs/gcd1_drc_68.cmd tile[i=68, r=8, c=4] bbox=(23207001,23207001)-(29008750,26107875)
[master] wrote /mnt/efs/designs/gcd1_drc_69.cmd tile[i=69, r=8, c=5] bbox=(29008751,23207001)-(34810500,26107875)
[master] wrote /mnt/efs/designs/gcd1_drc_70.cmd tile[i=70, r=8, c=6] bbox=(34810501,23207001)-(40612250,26107875)
[master] wrote /mnt/efs/designs/gcd1_drc_71.cmd tile[i=71, r=8, c=7] bbox=(40612251,23207001)-(46414000,26107875)
[master] wrote /mnt/efs/designs/gcd1_drc_72.cmd tile[i=72, r=9, c=0] bbox=(0,26107876)-(5801750,29008750)

```

```
[master] wrote /mnt/efs/designs/gcd1_drc_73.cmd tile[i=73, r=9, c=1] bbox=(5801751,26107876)-(11603500,29008750)
[master] wrote /mnt/efs/designs/gcd1_drc_74.cmd tile[i=74, r=9, c=2] bbox=(11603501,26107876)-(17405250,29008750)
[master] wrote /mnt/efs/designs/gcd1_drc_75.cmd tile[i=75, r=9, c=3] bbox=(17405251,26107876)-(23207000,29008750)
[master] wrote /mnt/efs/designs/gcd1_drc_76.cmd tile[i=76, r=9, c=4] bbox=(23207001,26107876)-(29008750,29008750)
[master] wrote /mnt/efs/designs/gcd1_drc_77.cmd tile[i=77, r=9, c=5] bbox=(29008751,26107876)-(34810500,29008750)
[master] wrote /mnt/efs/designs/gcd1_drc_78.cmd tile[i=78, r=9, c=6] bbox=(34810501,26107876)-(40612250,29008750)
[master] wrote /mnt/efs/designs/gcd1_drc_79.cmd tile[i=79, r=9, c=7] bbox=(40612251,26107876)-(46414000,29008750)
[master] wrote /mnt/efs/designs/gcd1_drc_80.cmd tile[i=80, r=10, c=0] bbox=(0,29008751)-(5801750,31909625)
[master] wrote /mnt/efs/designs/gcd1_drc_81.cmd tile[i=81, r=10, c=1] bbox=(5801751,29008751)-(11603500,31909625)
[master] wrote /mnt/efs/designs/gcd1_drc_82.cmd tile[i=82, r=10, c=2] bbox=(11603501,29008751)-(17405250,31909625)
[master] wrote /mnt/efs/designs/gcd1_drc_83.cmd tile[i=83, r=10, c=3] bbox=(17405251,29008751)-(23207000,31909625)
[master] wrote /mnt/efs/designs/gcd1_drc_84.cmd tile[i=84, r=10, c=4] bbox=(23207001,29008751)-(29008750,31909625)
[master] wrote /mnt/efs/designs/gcd1_drc_85.cmd tile[i=85, r=10, c=5] bbox=(29008751,29008751)-(34810500,31909625)
[master] wrote /mnt/efs/designs/gcd1_drc_86.cmd tile[i=86, r=10, c=6] bbox=(34810501,29008751)-(40612250,31909625)
[master] wrote /mnt/efs/designs/gcd1_drc_87.cmd tile[i=87, r=10, c=7] bbox=(40612251,29008751)-(46414000,31909625)
[master] wrote /mnt/efs/designs/gcd1_drc_88.cmd tile[i=88, r=11, c=0] bbox=(0,31909626)-(5801750,34810500)
[master] wrote /mnt/efs/designs/gcd1_drc_89.cmd tile[i=89, r=11, c=1] bbox=(5801751,31909626)-(11603500,34810500)
[master] wrote /mnt/efs/designs/gcd1_drc_90.cmd tile[i=90, r=11, c=2] bbox=(11603501,31909626)-(17405250,34810500)
[master] wrote /mnt/efs/designs/gcd1_drc_91.cmd tile[i=91, r=11, c=3] bbox=(17405251,31909626)-(23207000,34810500)
[master] wrote /mnt/efs/designs/gcd1_drc_92.cmd tile[i=92, r=11, c=4] bbox=(23207001,31909626)-(29008750,34810500)
[master] wrote /mnt/efs/designs/gcd1_drc_93.cmd tile[i=93, r=11, c=5] bbox=(29008751,31909626)-(34810500,34810500)
[master] wrote /mnt/efs/designs/gcd1_drc_94.cmd tile[i=94, r=11, c=6] bbox=(34810501,31909626)-(40612250,34810500)
[master] wrote /mnt/efs/designs/gcd1_drc_95.cmd tile[i=95, r=11, c=7] bbox=(40612251,31909626)-(46414000,34810500)
[master] wrote /mnt/efs/designs/gcd1_drc_96.cmd tile[i=96, r=12, c=0] bbox=(0,34810501)-(5801750,37711375)
[master] wrote /mnt/efs/designs/gcd1_drc_97.cmd tile[i=97, r=12, c=1] bbox=(5801751,34810501)-(11603500,37711375)
[master] wrote /mnt/efs/designs/gcd1_drc_98.cmd tile[i=98, r=12, c=2] bbox=(11603501,34810501)-(17405250,37711375)
[master] wrote /mnt/efs/designs/gcd1_drc_99.cmd tile[i=99, r=12, c=3] bbox=(17405251,34810501)-(23207000,37711375)
[master] wrote /mnt/efs/designs/gcd1_drc_100.cmd tile[i=100, r=12, c=4] bbox=(23207001,34810501)-(29008750,37711375)
[master] wrote /mnt/efs/designs/gcd1_drc_101.cmd tile[i=101, r=12, c=5] bbox=(29008751,34810501)-(34810500,37711375)
[master] wrote /mnt/efs/designs/gcd1_drc_102.cmd tile[i=102, r=12, c=6] bbox=(34810501,34810501)-(40612250,37711375)
[master] wrote /mnt/efs/designs/gcd1_drc_103.cmd tile[i=103, r=12, c=7] bbox=(40612251,34810501)-(46414000,37711375)
[master] wrote /mnt/efs/designs/gcd1_drc_104.cmd tile[i=104, r=13, c=0] bbox=(0,37711376)-(5801750,40612250)
[master] wrote /mnt/efs/designs/gcd1_drc_105.cmd tile[i=105, r=13, c=1] bbox=(5801751,37711376)-(11603500,40612250)
[master] wrote /mnt/efs/designs/gcd1_drc_106.cmd tile[i=106, r=13, c=2] bbox=(11603501,37711376)-(17405250,40612250)
[master] wrote /mnt/efs/designs/gcd1_drc_107.cmd tile[i=107, r=13, c=3] bbox=(17405251,37711376)-(23207000,40612250)
[master] wrote /mnt/efs/designs/gcd1_drc_108.cmd tile[i=108, r=13, c=4] bbox=(23207001,37711376)-(29008750,40612250)
[master] wrote /mnt/efs/designs/gcd1_drc_109.cmd tile[i=109, r=13, c=5] bbox=(29008751,37711376)-(34810500,40612250)
[master] wrote /mnt/efs/designs/gcd1_drc_110.cmd tile[i=110, r=13, c=6] bbox=(34810501,37711376)-(40612250,40612250)
[master] wrote /mnt/efs/designs/gcd1_drc_111.cmd tile[i=111, r=13, c=7] bbox=(40612251,37711376)-(46414000,40612250)
[master] wrote /mnt/efs/designs/gcd1_drc_112.cmd tile[i=112, r=14, c=0] bbox=(0,40612251)-(5801750,43513125)
[master] wrote /mnt/efs/designs/gcd1_drc_113.cmd tile[i=113, r=14, c=1] bbox=(5801751,40612251)-(11603500,43513125)
[master] wrote /mnt/efs/designs/gcd1_drc_114.cmd tile[i=114, r=14, c=2] bbox=(11603501,40612251)-(17405250,43513125)
[master] wrote /mnt/efs/designs/gcd1_drc_115.cmd tile[i=115, r=14, c=3] bbox=(17405251,40612251)-(23207000,43513125)
[master] wrote /mnt/efs/designs/gcd1_drc_116.cmd tile[i=116, r=14, c=4] bbox=(23207001,40612251)-(29008750,43513125)
[master] wrote /mnt/efs/designs/gcd1_drc_117.cmd tile[i=117, r=14, c=5] bbox=(29008751,40612251)-(34810500,43513125)
[master] wrote /mnt/efs/designs/gcd1_drc_118.cmd tile[i=118, r=14, c=6] bbox=(34810501,40612251)-(40612250,43513125)
[master] wrote /mnt/efs/designs/gcd1_drc_119.cmd tile[i=119, r=14, c=7] bbox=(40612251,40612251)-(46414000,43513125)
[master] wrote /mnt/efs/designs/gcd1_drc_120.cmd tile[i=120, r=15, c=0] bbox=(0,43513126)-(5801750,46414000)
[master] wrote /mnt/efs/designs/gcd1_drc_121.cmd tile[i=121, r=15, c=1] bbox=(5801751,43513126)-(11603500,46414000)
[master] wrote /mnt/efs/designs/gcd1_drc_122.cmd tile[i=122, r=15, c=2] bbox=(11603501,43513126)-(17405250,46414000)
[master] wrote /mnt/efs/designs/gcd1_drc_123.cmd tile[i=123, r=15, c=3] bbox=(17405251,43513126)-(23207000,46414000)
[master] wrote /mnt/efs/designs/gcd1_drc_124.cmd tile[i=124, r=15, c=4] bbox=(23207001,43513126)-(29008750,46414000)
[master] wrote /mnt/efs/designs/gcd1_drc_125.cmd tile[i=125, r=15, c=5] bbox=(29008751,43513126)-(34810500,46414000)
[master] wrote /mnt/efs/designs/gcd1_drc_126.cmd tile[i=126, r=15, c=6] bbox=(34810501,43513126)-(40612250,46414000)
[master] wrote /mnt/efs/designs/gcd1_drc_127.cmd tile[i=127, r=15, c=7] bbox=(40612251,43513126)-(46414000,46414000)
[master] launch node 0 -> ip-172-31-88-2.ec2.internal
[master] launch node 1 -> ip-172-31-90-2.ec2.internal
[master] launch node 2 -> ip-172-31-86-1.ec2.internal
[master] launch node 3 -> ip-172-31-95-0.ec2.internal
[master] launch node 4 -> ip-172-31-95-63.ec2.internal
[master] launch node 5 -> ip-172-31-80-62.ec2.internal
[master] launch node 6 -> ip-172-31-81-59.ec2.internal
[master] launch node 7 -> ip-172-31-86-58.ec2.internal
[master] launch node 8 -> ip-172-31-94-25.ec2.internal
[master] launch node 9 -> ip-172-31-95-24.ec2.internal
[master] launch node 10 -> ip-172-31-83-24.ec2.internal
[master] launch node 11 -> ip-172-31-82-20.ec2.internal
[master] launch node 12 -> ip-172-31-90-20.ec2.internal
[master] launch node 13 -> ip-172-31-94-16.ec2.internal
[master] launch node 14 -> ip-172-31-93-10.ec2.internal
[master] launch node 15 -> ip-172-31-95-5.ec2.internal
[master] launch node 16 -> ip-172-31-83-31.ec2.internal
[master] launch node 17 -> ip-172-31-80-30.ec2.internal
[master] launch node 18 -> ip-172-31-95-30.ec2.internal
[master] launch node 19 -> ip-172-31-82-30.ec2.internal
[master] launch node 20 -> ip-172-31-92-28.ec2.internal
[master] launch node 21 -> ip-172-31-80-26.ec2.internal
[master] launch node 22 -> ip-172-31-86-135.ec2.internal
[master] launch node 23 -> ip-172-31-86-133.ec2.internal
[master] launch node 24 -> ip-172-31-91-131.ec2.internal
[master] launch node 25 -> ip-172-31-88-131.ec2.internal
[master] launch node 26 -> ip-172-31-89-128.ec2.internal
```

```
[master] launch node 27 -> ip-172-31-81-128.ec2.internal
[master] launch node 28 -> ip-172-31-90-189.ec2.internal
[master] launch node 29 -> ip-172-31-85-188.ec2.internal
[master] launch node 30 -> ip-172-31-83-97.ec2.internal
[master] launch node 31 -> ip-172-31-80-159.ec2.internal
[master] launch node 32 -> ip-172-31-89-146.ec2.internal
[master] launch node 33 -> ip-172-31-81-145.ec2.internal
[master] launch node 34 -> ip-172-31-89-142.ec2.internal
[master] launch node 35 -> ip-172-31-83-138.ec2.internal
[master] launch node 36 -> ip-172-31-93-137.ec2.internal
[master] launch node 37 -> ip-172-31-90-136.ec2.internal
[master] launch node 38 -> ip-172-31-88-108.ec2.internal
[master] launch node 39 -> ip-172-31-91-107.ec2.internal
[master] launch node 40 -> ip-172-31-92-106.ec2.internal
[master] launch node 41 -> ip-172-31-88-105.ec2.internal
[master] launch node 42 -> ip-172-31-85-105.ec2.internal
[master] launch node 43 -> ip-172-31-85-100.ec2.internal
[master] launch node 44 -> ip-172-31-94-99.ec2.internal
[master] launch node 45 -> ip-172-31-82-98.ec2.internal
[master] launch node 46 -> ip-172-31-95-64.ec2.internal
[master] launch node 47 -> ip-172-31-95-122.ec2.internal
[master] launch node 48 -> ip-172-31-88-121.ec2.internal
[master] launch node 49 -> ip-172-31-82-118.ec2.internal
[master] launch node 50 -> ip-172-31-85-117.ec2.internal
[master] launch node 51 -> ip-172-31-84-116.ec2.internal
[master] launch node 52 -> ip-172-31-87-112.ec2.internal
[master] launch node 53 -> ip-172-31-88-110.ec2.internal
[master] launch node 54 -> ip-172-31-95-76.ec2.internal
[master] launch node 55 -> ip-172-31-93-76.ec2.internal
[master] launch node 56 -> ip-172-31-85-75.ec2.internal
[master] launch node 57 -> ip-172-31-83-73.ec2.internal
[master] launch node 58 -> ip-172-31-94-70.ec2.internal
[master] launch node 59 -> ip-172-31-95-70.ec2.internal
[master] launch node 60 -> ip-172-31-95-66.ec2.internal
[master] launch node 61 -> ip-172-31-88-66.ec2.internal
[master] launch node 62 -> ip-172-31-91-36.ec2.internal
[master] launch node 63 -> ip-172-31-94-95.ec2.internal
[master] launch node 64 -> ip-172-31-81-91.ec2.internal
[master] launch node 65 -> ip-172-31-81-88.ec2.internal
[master] launch node 66 -> ip-172-31-82-85.ec2.internal
[master] launch node 67 -> ip-172-31-82-83.ec2.internal
[master] launch node 68 -> ip-172-31-93-82.ec2.internal
[master] launch node 69 -> ip-172-31-85-81.ec2.internal
[master] launch node 70 -> ip-172-31-87-44.ec2.internal
[master] launch node 71 -> ip-172-31-82-43.ec2.internal
[master] launch node 72 -> ip-172-31-87-42.ec2.internal
[master] launch node 73 -> ip-172-31-81-42.ec2.internal
[master] launch node 74 -> ip-172-31-82-40.ec2.internal
[master] launch node 75 -> ip-172-31-95-39.ec2.internal
[master] launch node 76 -> ip-172-31-80-38.ec2.internal
[master] launch node 77 -> ip-172-31-86-36.ec2.internal
[master] launch node 78 -> ip-172-31-92-57.ec2.internal
[master] launch node 79 -> ip-172-31-85-57.ec2.internal
[master] launch node 80 -> ip-172-31-83-53.ec2.internal
[master] launch node 81 -> ip-172-31-82-51.ec2.internal
[master] launch node 82 -> ip-172-31-82-48.ec2.internal
[master] launch node 83 -> ip-172-31-93-48.ec2.internal
[master] launch node 84 -> ip-172-31-90-46.ec2.internal
[master] launch node 85 -> ip-172-31-95-45.ec2.internal
[master] launch node 86 -> ip-172-31-83-228.ec2.internal
[master] launch node 87 -> ip-172-31-90-225.ec2.internal
[master] launch node 88 -> ip-172-31-93-242.ec2.internal
[master] launch node 89 -> ip-172-31-92-241.ec2.internal
[master] launch node 90 -> ip-172-31-88-236.ec2.internal
[master] launch node 91 -> ip-172-31-92-235.ec2.internal
[master] launch node 92 -> ip-172-31-87-234.ec2.internal
[master] launch node 93 -> ip-172-31-83-231.ec2.internal
[master] launch node 94 -> ip-172-31-91-231.ec2.internal
[master] launch node 95 -> ip-172-31-88-229.ec2.internal
[master] launch node 96 -> ip-172-31-87-197.ec2.internal
[master] launch node 97 -> ip-172-31-87-193.ec2.internal
[master] launch node 98 -> ip-172-31-89-192.ec2.internal
[master] launch node 99 -> ip-172-31-92-255.ec2.internal
[master] launch node 100 -> ip-172-31-90-252.ec2.internal
[master] launch node 101 -> ip-172-31-88-252.ec2.internal
[master] launch node 102 -> ip-172-31-92-248.ec2.internal
[master] launch node 103 -> ip-172-31-85-244.ec2.internal
[master] launch node 104 -> ip-172-31-93-212.ec2.internal
[master] launch node 105 -> ip-172-31-91-207.ec2.internal
[master] launch node 106 -> ip-172-31-91-203.ec2.internal
[master] launch node 107 -> ip-172-31-86-202.ec2.internal
[master] launch node 108 -> ip-172-31-83-201.ec2.internal
```

```
[master] launch node 109 -> ip-172-31-95-201.ec2.internal
[master] launch node 110 -> ip-172-31-81-201.ec2.internal
[master] launch node 111 -> ip-172-31-80-200.ec2.internal
[master] launch node 112 -> ip-172-31-80-162.ec2.internal
[master] launch node 113 -> ip-172-31-92-162.ec2.internal
[master] launch node 114 -> ip-172-31-90-160.ec2.internal
[master] launch node 115 -> ip-172-31-81-160.ec2.internal
[master] launch node 116 -> ip-172-31-92-160.ec2.internal
[master] launch node 117 -> ip-172-31-91-223.ec2.internal
[master] launch node 118 -> ip-172-31-86-216.ec2.internal
[master] launch node 119 -> ip-172-31-84-215.ec2.internal
[master] launch node 120 -> ip-172-31-86-186.ec2.internal
[master] launch node 121 -> ip-172-31-89-186.ec2.internal
[master] launch node 122 -> ip-172-31-88-181.ec2.internal
[master] launch node 123 -> ip-172-31-84-178.ec2.internal
[master] launch node 124 -> ip-172-31-83-172.ec2.internal
[master] launch node 125 -> ip-172-31-95-165.ec2.internal
[master] launch node 126 -> ip-172-31-83-164.ec2.internal
[master] launch node 127 -> ip-172-31-80-163.ec2.internal
[master] waiting for 128 node processes to finish...
```

Chapter 10

Appendix B — Summary Reports (Placeholder)

Aggregated summaries, CSV exports, and derived metrics are be inserted here without modifying prior chapters. This is only for 1 node out of the 128 nodes

10.0.1 LVR XOR result for 1B polygon GDSII Design

```
[2025-12-29 06:19:47] [info] =====
[2025-12-29 06:19:47] [info] XOR Verification Report
[2025-12-29 06:19:47] [info] =====

[2025-12-29 06:19:47] [info] Report Generated: 2025-12-29
[2025-12-29 06:19:47] [info] Run Start Time: 06:18:33 AM
[2025-12-29 06:19:47] [info] Run End Time: 06:19:47 AM
[2025-12-29 06:19:47] [info] Time Taken: 1 minutes 14 seconds

[2025-12-29 06:19:47] [info] Tool Version: LVR_2025.1
[2025-12-29 06:19:47] [info] Host Name: ip-172-31-88-2
[2025-12-29 06:19:47] [info] User Name: ubuntu
[2025-12-29 06:19:47] [info] Cores Used: 8
[2025-12-29 06:19:47] [info] Memory Utilized: 366.45 MB / 61.77815246582031 GB

[2025-12-29 06:19:47] [info] -----
[2025-12-29 06:19:47] [info] Top Cell Information
[2025-12-29 06:19:47] [info] -----
[2025-12-29 06:19:47] [info] Layout Top Cell: TOP
[2025-12-29 06:19:47] [info] Technology Node: SKY130HD (130nm)
[2025-12-29 06:19:47] [info] Database Format: GDSII
[2025-12-29 06:19:47] [info] Verification Mode: XOR Check

[2025-12-29 06:19:47] [info] -----
[2025-12-29 06:19:47] [info] XOR Mismatch Summary
[2025-12-29 06:19:47] [info] -----
[2025-12-29 06:19:47] [info] | Layer Name | XOR Errors |
[2025-12-29 06:19:47] [info] |-----|-----|
[2025-12-29 06:19:47] [info]
[2025-12-29 06:19:47] [info] -----
[2025-12-29 06:19:47] [info] Performance Metrics
[2025-12-29 06:19:47] [info] -----
[2025-12-29 06:19:47] [info] | Stage | Time Taken |
[2025-12-29 06:19:47] [info] |-----|-----|
[2025-12-29 06:19:47] [info] | GDS Parsing | 0 minutes 42 seconds |
[2025-12-29 06:19:47] [info] | Layer Comparison | 0 minutes 0 seconds |
[2025-12-29 06:19:47] [info] | Report Generation | 0 minutes 0 seconds |

[2025-12-29 06:19:47] [info] -----
[2025-12-29 06:19:47] [info] Type of Errors | Count
[2025-12-29 06:19:47] [info] -----
[2025-12-29 06:19:47] [info] DB_ERR010 -> 4
[2025-12-29 06:19:47] [info] DB_WARN -> 1
[2025-12-29 06:19:47] [info] LRF_ERR001 -> 14
[2025-12-29 06:19:47] [info] DB_WARN002 -> 116
[2025-12-29 06:19:47] [info] DB_WARN003 -> 110
[2025-12-29 06:19:47] [info] -----
```

```
[2025-12-29 06:19:47] [info]          Summary
[2025-12-29 06:19:47] [info] -----
[2025-12-29 06:19:47] [info] Total XOR Mismatches:    18
[2025-12-29 06:19:47] [info] Total Warnings:         227
[2025-12-29 06:19:47] [info] XOR Status:             MISMATCH
```

10.0.2 LVR DRC result for 346 rules for 1B polygon GDSII Design

```
[2025-12-29 06:20:32] [info] =====
[2025-12-29 06:20:32] [info]                      Design Rule Check Report
[2025-12-29 06:20:32] [info] =====

[2025-12-29 06:20:32] [info] Report Generated:    2025-12-29
[2025-12-29 06:20:32] [info] Run Start Time:      06:19:54 AM
[2025-12-29 06:20:32] [info] Run End Time:        06:20:32 AM
[2025-12-29 06:20:32] [info] Time Taken:          0 minutes 37 seconds

[2025-12-29 06:20:32] [info] Tool Version:        LVR_2025.1
[2025-12-29 06:20:32] [info] Host Name:           ip-172-31-88-2
[2025-12-29 06:20:32] [info] User Name:           ubuntu
[2025-12-29 06:20:32] [info] Cores Used:          8
[2025-12-29 06:20:32] [info] Memory Utilized:     375.15 MB / 61.77815246582031 GB

[2025-12-29 06:20:32] [info] -----
[2025-12-29 06:20:32] [info]                      Top Cell Information
[2025-12-29 06:20:32] [info] -----
[2025-12-29 06:20:32] [info] Layout Top Cell:     TOP
[2025-12-29 06:20:32] [info] Technology Node:      SKY130HD (130nm)
[2025-12-29 06:20:32] [info] Database Format:      GDSII
[2025-12-29 06:20:32] [info] Verification Mode:    Full Check

[2025-12-29 06:20:32] [info] -----
[2025-12-29 06:20:32] [info]                      Type of Errors | Count
[2025-12-29 06:20:32] [info] -----
[2025-12-29 06:20:32] [info] DB_WARN -> 1
[2025-12-29 06:20:32] [info] LRF_ERR001 -> 14
[2025-12-29 06:20:32] [info] DB_WARN002 -> 58
[2025-12-29 06:20:32] [info] DB_WARN003 -> 55
[2025-12-29 06:20:32] [info] DRC_ERR9 -> 1374
[2025-12-29 06:20:32] [info] DRC_ERR -> 7319
[2025-12-29 06:20:32] [info] DRC_ERR4 -> 579
[2025-12-29 06:20:32] [info] -----
[2025-12-29 06:20:32] [info]                      Rule Violation Summary
[2025-12-29 06:20:32] [info] -----
[2025-12-29 06:20:32] [info] | Rule ID      | Description                                | Error Count |
[2025-12-29 06:20:32] [info] |-----|-----|-----|
[2025-12-29 06:20:32] [info] | m3.6         | "m3.6 : min. m3 area : 0.24um^2"         | 771          |
[2025-12-29 06:20:32] [info] | m3.1         | "m3.1 : min. m3 width : 0.3um"           | 771          |
[2025-12-29 06:20:32] [info] | m2.6         | "m2.6 : min. m2 area : 0.0676um^2"       | 135          |
[2025-12-29 06:20:32] [info] | m2.1         | "m2.1 : min. m2 width : 0.14um"         | 29           |
[2025-12-29 06:20:32] [info] | m3.4         | "m3.4 : min. m3 enclosure of via2 : 0.065um" | 579          |
[2025-12-29 06:20:32] [info] | m1.6         | "m1.6 : min. m1 area : 0.083um^2"       | 6413         |
[2025-12-29 06:20:32] [info] | m1.1         | "m1.1 : min. m1 width : 0.14um"         | 574          |
[2025-12-29 06:20:32] [info] |-----|-----|-----|
[2025-12-29 06:20:32] [info] -----
[2025-12-29 06:20:32] [info]                      Performance Metrics
[2025-12-29 06:20:32] [info] -----
[2025-12-29 06:20:32] [info] | Stage                | Time Taken |
[2025-12-29 06:20:32] [info] |-----|-----|
[2025-12-29 06:20:32] [info] | GDS Parsing          | 0 minutes 18 seconds |
[2025-12-29 06:20:32] [info] | Rule Checking        | 0 minutes 3 seconds  |
[2025-12-29 06:20:32] [info] | Report Generation    | 0 minutes 0 seconds  |

[2025-12-29 06:20:32] [info] -----
[2025-12-29 06:20:32] [info]                      Summary
[2025-12-29 06:20:32] [info] -----
[2025-12-29 06:20:32] [info] Total Errors:    9286
[2025-12-29 06:20:32] [info] Total Warnings:  114
[2025-12-29 06:20:32] [info] DRC Status:      FAILED
```

10.0.3 LVR DRC width result for 1B polygon GDSII Design

```
[2025-12-29 06:21:11] [info] =====
[2025-12-29 06:21:11] [info]                      Design Rule Check Report
[2025-12-29 06:21:11] [info] =====

[2025-12-29 06:21:11] [info] Report Generated:    2025-12-29
[2025-12-29 06:21:11] [info] Run Start Time:      06:20:37 AM
[2025-12-29 06:21:11] [info] Run End Time:        06:21:11 AM
[2025-12-29 06:21:11] [info] Time Taken:          0 minutes 34 seconds

[2025-12-29 06:21:11] [info] Tool Version:        LVR_2025.1
[2025-12-29 06:21:11] [info] Host Name:           ip-172-31-88-2
[2025-12-29 06:21:11] [info] User Name:           ubuntu
[2025-12-29 06:21:11] [info] Cores Used:          8
[2025-12-29 06:21:11] [info] Memory Utilized:     366.45 MB / 61.77815246582031 GB

[2025-12-29 06:21:11] [info] -----
[2025-12-29 06:21:11] [info]                      Top Cell Information
[2025-12-29 06:21:11] [info] -----
[2025-12-29 06:21:11] [info] Layout Top Cell:     TOP
[2025-12-29 06:21:11] [info] Technology Node:      SKY130HD (130nm)
[2025-12-29 06:21:11] [info] Database Format:      GDSII
[2025-12-29 06:21:11] [info] Verification Mode:    Full Check

[2025-12-29 06:21:11] [info] -----
[2025-12-29 06:21:11] [info]                      Type of Errors | Count
[2025-12-29 06:21:11] [info] -----
[2025-12-29 06:21:11] [info] DB_WARN -> 1
[2025-12-29 06:21:11] [info] LRF_ERR001 -> 1
[2025-12-29 06:21:11] [info] DB_WARN002 -> 58
[2025-12-29 06:21:11] [info] DB_WARN003 -> 55
[2025-12-29 06:21:11] [info] -----
[2025-12-29 06:21:11] [info]                      Rule Violation Summary
[2025-12-29 06:21:11] [info] -----
[2025-12-29 06:21:11] [info] | Rule ID      | Description                               | Error Count |
[2025-12-29 06:21:11] [info] |-----|-----|-----|
[2025-12-29 06:21:11] [info]
[2025-12-29 06:21:11] [info] -----
[2025-12-29 06:21:11] [info]                      Performance Metrics
[2025-12-29 06:21:11] [info] -----
[2025-12-29 06:21:11] [info] | Stage          | Time Taken |
[2025-12-29 06:21:11] [info] |-----|-----|
[2025-12-29 06:21:11] [info] | GDS Parsing    | 0 minutes 19 seconds |
[2025-12-29 06:21:11] [info] | Rule Checking   | 0 minutes 0 seconds  |
[2025-12-29 06:21:11] [info] | Report Generation | 0 minutes 0 seconds  |

[2025-12-29 06:21:11] [info] -----
[2025-12-29 06:21:11] [info]                      Summary
[2025-12-29 06:21:11] [info] -----
[2025-12-29 06:21:11] [info] Total Errors:      1
[2025-12-29 06:21:11] [info] Total Warnings:    114
[2025-12-29 06:21:11] [info] DRC Status:        FAILED
```

10.0.4 LVR DRC enclosure result for 1B polygon GDSII Design

```
[2025-12-29 06:21:51] [info] =====
[2025-12-29 06:21:51] [info]                      Design Rule Check Report
[2025-12-29 06:21:51] [info] =====

[2025-12-29 06:21:51] [info] Report Generated:    2025-12-29
[2025-12-29 06:21:51] [info] Run Start Time:      06:21:16 AM
[2025-12-29 06:21:51] [info] Run End Time:        06:21:51 AM
[2025-12-29 06:21:51] [info] Time Taken:          0 minutes 34 seconds

[2025-12-29 06:21:51] [info] Tool Version:        LVR_2025.1
[2025-12-29 06:21:51] [info] Host Name:            ip-172-31-88-2
[2025-12-29 06:21:51] [info] User Name:            ubuntu
[2025-12-29 06:21:51] [info] Cores Used:           8
[2025-12-29 06:21:51] [info] Memory Utilized:      366.45 MB / 61.77815246582031 GB

[2025-12-29 06:21:51] [info] -----
[2025-12-29 06:21:51] [info]                      Top Cell Information
[2025-12-29 06:21:51] [info] -----
[2025-12-29 06:21:51] [info] Layout Top Cell:      TOP
[2025-12-29 06:21:51] [info] Technology Node:       SKY130HD (130nm)
[2025-12-29 06:21:51] [info] Database Format:        GDSII
[2025-12-29 06:21:51] [info] Verification Mode:     Full Check

[2025-12-29 06:21:51] [info] -----
[2025-12-29 06:21:51] [info]                      Type of Errors | Count
[2025-12-29 06:21:51] [info] -----
[2025-12-29 06:21:51] [info] DB_WARN -> 1
[2025-12-29 06:21:51] [info] LRF_ERR001 -> 1
[2025-12-29 06:21:51] [info] DB_WARN002 -> 58
[2025-12-29 06:21:51] [info] DB_WARN003 -> 55
[2025-12-29 06:21:51] [info] -----
[2025-12-29 06:21:51] [info]                      Rule Violation Summary
[2025-12-29 06:21:51] [info] -----
[2025-12-29 06:21:51] [info] | Rule ID      | Description                               | Error Count |
[2025-12-29 06:21:51] [info] |-----|-----|-----|
[2025-12-29 06:21:51] [info]
[2025-12-29 06:21:51] [info] -----
[2025-12-29 06:21:51] [info]                      Performance Metrics
[2025-12-29 06:21:51] [info] -----
[2025-12-29 06:21:51] [info] | Stage          | Time Taken |
[2025-12-29 06:21:51] [info] |-----|-----|
[2025-12-29 06:21:51] [info] | GDS Parsing    | 0 minutes 19 seconds |
[2025-12-29 06:21:51] [info] | Rule Checking   | 0 minutes 0 seconds  |
[2025-12-29 06:21:51] [info] | Report Generation | 0 minutes 0 seconds  |

[2025-12-29 06:21:51] [info] -----
[2025-12-29 06:21:51] [info]                      Summary
[2025-12-29 06:21:51] [info] -----
[2025-12-29 06:21:51] [info] Total Errors:      1
[2025-12-29 06:21:51] [info] Total Warnings:    114
[2025-12-29 06:21:51] [info] DRC Status:        FAILED
```

10.0.5 LVR spacing result for 1B polygon GDSII Design

```
[2025-12-29 06:22:30] [info] =====
[2025-12-29 06:22:30] [info]                      Design Rule Check Report
[2025-12-29 06:22:30] [info] =====

[2025-12-29 06:22:30] [info] Report Generated:    2025-12-29
[2025-12-29 06:22:30] [info] Run Start Time:      06:21:56 AM
[2025-12-29 06:22:30] [info] Run End Time:        06:22:30 AM
[2025-12-29 06:22:30] [info] Time Taken:          0 minutes 34 seconds

[2025-12-29 06:22:30] [info] Tool Version:        LVR_2025.1
[2025-12-29 06:22:30] [info] Host Name:           ip-172-31-88-2
[2025-12-29 06:22:30] [info] User Name:           ubuntu
[2025-12-29 06:22:30] [info] Cores Used:          8
[2025-12-29 06:22:30] [info] Memory Utilized:     366.45 MB / 61.77815246582031 GB

[2025-12-29 06:22:30] [info] -----
[2025-12-29 06:22:30] [info]                      Top Cell Information
[2025-12-29 06:22:30] [info] -----
[2025-12-29 06:22:30] [info] Layout Top Cell:     TOP
[2025-12-29 06:22:30] [info] Technology Node:      SKY130HD (130nm)
[2025-12-29 06:22:30] [info] Database Format:      GDSII
[2025-12-29 06:22:30] [info] Verification Mode:    Full Check

[2025-12-29 06:22:30] [info] -----
[2025-12-29 06:22:30] [info]                      Type of Errors | Count
[2025-12-29 06:22:30] [info] -----
[2025-12-29 06:22:30] [info] DB_WARN -> 1
[2025-12-29 06:22:30] [info] LRF_ERR001 -> 1
[2025-12-29 06:22:30] [info] DB_WARN002 -> 58
[2025-12-29 06:22:30] [info] DB_WARN003 -> 55
[2025-12-29 06:22:30] [info] -----
[2025-12-29 06:22:30] [info]                      Rule Violation Summary
[2025-12-29 06:22:30] [info] -----
[2025-12-29 06:22:30] [info] | Rule ID      | Description                               | Error Count |
[2025-12-29 06:22:30] [info] |-----|-----|-----|
[2025-12-29 06:22:30] [info]
[2025-12-29 06:22:30] [info] -----
[2025-12-29 06:22:30] [info]                      Performance Metrics
[2025-12-29 06:22:30] [info] -----
[2025-12-29 06:22:30] [info] | Stage          | Time Taken |
[2025-12-29 06:22:30] [info] |-----|-----|
[2025-12-29 06:22:30] [info] | GDS Parsing    | 0 minutes 19 seconds |
[2025-12-29 06:22:30] [info] | Rule Checking   | 0 minutes 0 seconds  |
[2025-12-29 06:22:30] [info] | Report Generation | 0 minutes 0 seconds  |

[2025-12-29 06:22:30] [info] -----
[2025-12-29 06:22:30] [info]                      Summary
[2025-12-29 06:22:30] [info] -----
[2025-12-29 06:22:30] [info] Total Errors:      1
[2025-12-29 06:22:30] [info] Total Warnings:    114
[2025-12-29 06:22:30] [info] DRC Status:        FAILED
```

10.0.6 LVR Min Density result for 1B polygon GDSII Design

```
[2025-12-29 06:23:11] [info] =====
[2025-12-29 06:23:11] [info]                      Density Rule Check Report
[2025-12-29 06:23:11] [info] =====

[2025-12-29 06:23:11] [info] Report Generated:    2025-12-29
[2025-12-29 06:23:11] [info] Run Start Time:      06:22:35 AM
[2025-12-29 06:23:11] [info] Run End Time:        06:23:11 AM
[2025-12-29 06:23:11] [info] Time Taken:          0 minutes 36 seconds

[2025-12-29 06:23:11] [info] Tool Version:        LVR_2025.1
[2025-12-29 06:23:11] [info] Host Name:            ip-172-31-88-2
[2025-12-29 06:23:11] [info] User Name:            ubuntu
[2025-12-29 06:23:11] [info] Cores Used:           1
[2025-12-29 06:23:11] [info] Memory Utilized:      365.53 MB / 61.77815246582031 GB

[2025-12-29 06:23:11] [info] -----
[2025-12-29 06:23:11] [info]                      Top Cell Information
[2025-12-29 06:23:11] [info] -----
[2025-12-29 06:23:11] [info] Layout Top Cell:      TOP
[2025-12-29 06:23:11] [info] Technology Node:       SKY130HD (130nm)
[2025-12-29 06:23:11] [info] Database Format:        GDSII
[2025-12-29 06:23:11] [info] Verification Mode:     Full Check

[2025-12-29 06:23:11] [info] -----
[2025-12-29 06:23:11] [info]                      Type of Errors | Count
[2025-12-29 06:23:11] [info] -----
[2025-12-29 06:23:11] [info] DB_WARN -> 1
[2025-12-29 06:23:11] [info] LRF_ERR001 -> 1
[2025-12-29 06:23:11] [info] DB_WARN002 -> 58
[2025-12-29 06:23:11] [info] DB_WARN003 -> 55
[2025-12-29 06:23:11] [info] -----
[2025-12-29 06:23:11] [info]                      Density Rule Violation Summary
[2025-12-29 06:23:11] [info] -----
[2025-12-29 06:23:11] [info] | Rule ID      | Description                               | Error Count |
[2025-12-29 06:23:11] [info] |-----|-----|-----|
[2025-12-29 06:23:11] [info]
[2025-12-29 06:23:11] [info] -----
[2025-12-29 06:23:11] [info]                      Performance Metrics
[2025-12-29 06:23:11] [info] -----
[2025-12-29 06:23:11] [info] | Stage          | Time Taken |
[2025-12-29 06:23:11] [info] |-----|-----|
[2025-12-29 06:23:11] [info] | GDS Parsing    | 0 minutes 20 seconds |
[2025-12-29 06:23:11] [info] | Rule Checking   | 0 minutes 0 seconds  |
[2025-12-29 06:23:11] [info] | Report Generation | 0 minutes 0 seconds  |

[2025-12-29 06:23:11] [info] -----
[2025-12-29 06:23:11] [info]                      Summary
[2025-12-29 06:23:11] [info] -----
[2025-12-29 06:23:11] [info] Total Errors:      1
[2025-12-29 06:23:11] [info] Total Warnings:    114
[2025-12-29 06:23:11] [info] DENSITY Status:    FAILED
```

10.0.7 LVR Max Density result for 1B polygon GDSII Design

```
[2025-12-29 06:23:53] [info] =====
[2025-12-29 06:23:53] [info]                      Density Rule Check Report
[2025-12-29 06:23:53] [info] =====

[2025-12-29 06:23:53] [info] Report Generated:    2025-12-29
[2025-12-29 06:23:53] [info] Run Start Time:      06:23:17 AM
[2025-12-29 06:23:53] [info] Run End Time:        06:23:53 AM
[2025-12-29 06:23:53] [info] Time Taken:          0 minutes 35 seconds

[2025-12-29 06:23:53] [info] Tool Version:        LVR_2025.1
[2025-12-29 06:23:53] [info] Host Name:           ip-172-31-88-2
[2025-12-29 06:23:53] [info] User Name:           ubuntu
[2025-12-29 06:23:53] [info] Cores Used:          1
[2025-12-29 06:23:53] [info] Memory Utilized:     365.53 MB / 61.77815246582031 GB

[2025-12-29 06:23:53] [info] -----
[2025-12-29 06:23:53] [info]                      Top Cell Information
[2025-12-29 06:23:53] [info] -----
[2025-12-29 06:23:53] [info] Layout Top Cell:     TOP
[2025-12-29 06:23:53] [info] Technology Node:      SKY130HD (130nm)
[2025-12-29 06:23:53] [info] Database Format:       GDSII
[2025-12-29 06:23:53] [info] Verification Mode:    Full Check

[2025-12-29 06:23:53] [info] -----
[2025-12-29 06:23:53] [info]                      Type of Errors | Count
[2025-12-29 06:23:53] [info] -----
[2025-12-29 06:23:53] [info] DB_WARN -> 1
[2025-12-29 06:23:53] [info] LRF_ERR001 -> 1
[2025-12-29 06:23:53] [info] DB_WARN002 -> 58
[2025-12-29 06:23:53] [info] DB_WARN003 -> 55
[2025-12-29 06:23:53] [info] -----
[2025-12-29 06:23:53] [info]                      Density Rule Violation Summary
[2025-12-29 06:23:53] [info] -----
[2025-12-29 06:23:53] [info] | Rule ID      | Description                               | Error Count |
[2025-12-29 06:23:53] [info] |-----|-----|-----|
[2025-12-29 06:23:53] [info]
[2025-12-29 06:23:53] [info] -----
[2025-12-29 06:23:53] [info]                      Performance Metrics
[2025-12-29 06:23:53] [info] -----
[2025-12-29 06:23:53] [info] | Stage          | Time Taken |
[2025-12-29 06:23:53] [info] |-----|-----|
[2025-12-29 06:23:53] [info] | GDS Parsing    | 0 minutes 20 seconds |
[2025-12-29 06:23:53] [info] | Rule Checking  | 0 minutes 0 seconds  |
[2025-12-29 06:23:53] [info] | Report Generation | 0 minutes 0 seconds  |

[2025-12-29 06:23:53] [info] -----
[2025-12-29 06:23:53] [info]                      Summary
[2025-12-29 06:23:53] [info] -----
[2025-12-29 06:23:53] [info] Total Errors:      1
[2025-12-29 06:23:53] [info] Total Warnings:    114
[2025-12-29 06:23:53] [info] DENSITY Status:    FAILED
```

10.0.8 LVR Min Max result for 1B polygon GDSII Design

```
[2025-12-29 06:24:33] [info] =====
[2025-12-29 06:24:33] [info]                      Density Rule Check Report
[2025-12-29 06:24:33] [info] =====

[2025-12-29 06:24:33] [info] Report Generated:    2025-12-29
[2025-12-29 06:24:33] [info] Run Start Time:      06:23:58 AM
[2025-12-29 06:24:33] [info] Run End Time:        06:24:33 AM
[2025-12-29 06:24:33] [info] Time Taken:          0 minutes 34 seconds

[2025-12-29 06:24:33] [info] Tool Version:        LVR_2025.1
[2025-12-29 06:24:33] [info] Host Name:           ip-172-31-88-2
[2025-12-29 06:24:33] [info] User Name:           ubuntu
[2025-12-29 06:24:33] [info] Cores Used:          1
[2025-12-29 06:24:33] [info] Memory Utilized:     365.53 MB / 61.77815246582031 GB

[2025-12-29 06:24:33] [info] -----
[2025-12-29 06:24:33] [info]                      Top Cell Information
[2025-12-29 06:24:33] [info] -----
[2025-12-29 06:24:33] [info] Layout Top Cell:     TOP
[2025-12-29 06:24:33] [info] Technology Node:      SKY130HD (130nm)
[2025-12-29 06:24:33] [info] Database Format:       GDSII
[2025-12-29 06:24:33] [info] Verification Mode:    Full Check

[2025-12-29 06:24:33] [info] -----
[2025-12-29 06:24:33] [info]                      Type of Errors | Count
[2025-12-29 06:24:33] [info] -----
[2025-12-29 06:24:33] [info] DB_WARN -> 1
[2025-12-29 06:24:33] [info] LRF_ERR001 -> 1
[2025-12-29 06:24:33] [info] DB_WARN002 -> 58
[2025-12-29 06:24:33] [info] DB_WARN003 -> 55
[2025-12-29 06:24:33] [info] -----
[2025-12-29 06:24:33] [info]                      Density Rule Violation Summary
[2025-12-29 06:24:33] [info] -----
[2025-12-29 06:24:33] [info] | Rule ID      | Description                               | Error Count |
[2025-12-29 06:24:33] [info] |-----|-----|-----|
[2025-12-29 06:24:33] [info]
[2025-12-29 06:24:33] [info] -----
[2025-12-29 06:24:33] [info]                      Performance Metrics
[2025-12-29 06:24:33] [info] -----
[2025-12-29 06:24:33] [info] | Stage          | Time Taken |
[2025-12-29 06:24:33] [info] |-----|-----|
[2025-12-29 06:24:33] [info] | GDS Parsing    | 0 minutes 20 seconds |
[2025-12-29 06:24:33] [info] | Rule Checking   | 0 minutes 0 seconds  |
[2025-12-29 06:24:33] [info] | Report Generation | 0 minutes 0 seconds  |

[2025-12-29 06:24:33] [info] -----
[2025-12-29 06:24:33] [info]                      Summary
[2025-12-29 06:24:33] [info] -----
[2025-12-29 06:24:33] [info] Total Errors:      1
[2025-12-29 06:24:33] [info] Total Warnings:    114
[2025-12-29 06:24:33] [info] DENSITY Status:    FAILED
```

10.0.9 LVR DRC result for 346 rules for 10B polygon GDSII Design

```

[2025-12-29 07:04:11] [info] =====
[2025-12-29 07:04:11] [info]                      Design Rule Check Report
[2025-12-29 07:04:11] [info] =====

[2025-12-29 07:04:11] [info] Report Generated:    2025-12-29
[2025-12-29 07:04:11] [info] Run Start Time:      06:56:36 AM
[2025-12-29 07:04:11] [info] Run End Time:        07:04:11 AM
[2025-12-29 07:04:11] [info] Time Taken:          7 minutes 34 seconds

[2025-12-29 07:04:11] [info] Tool Version:        LVR_2025.1
[2025-12-29 07:04:11] [info] Host Name:           ip-172-31-88-2
[2025-12-29 07:04:11] [info] User Name:           ubuntu
[2025-12-29 07:04:11] [info] Cores Used:          8
[2025-12-29 07:04:11] [info] Memory Utilized:     1149.04 MB / 61.77814865112305 GB

[2025-12-29 07:04:11] [info] -----
[2025-12-29 07:04:11] [info]                      Top Cell Information
[2025-12-29 07:04:11] [info] -----
[2025-12-29 07:04:11] [info] Layout Top Cell:     TOP
[2025-12-29 07:04:11] [info] Technology Node:      SKY130HD (130nm)
[2025-12-29 07:04:11] [info] Database Format:       GDSII
[2025-12-29 07:04:11] [info] Verification Mode:    Full Check

[2025-12-29 07:04:11] [info] -----
[2025-12-29 07:04:11] [info]                      Type of Errors | Count
[2025-12-29 07:04:11] [info] -----
[2025-12-29 07:04:11] [info] DB_WARN -> 1
[2025-12-29 07:04:11] [info] LRF_ERR001 -> 14
[2025-12-29 07:04:11] [info] DB_WARN002 -> 58
[2025-12-29 07:04:11] [info] DB_WARN003 -> 55
[2025-12-29 07:04:11] [info] DRC_ERR9 -> 3715
[2025-12-29 07:04:11] [info] DRC_ERR -> 22255
[2025-12-29 07:04:11] [info] DRC_ERR4 -> 579
[2025-12-29 07:04:11] [info] -----
[2025-12-29 07:04:11] [info]                      Rule Violation Summary
[2025-12-29 07:04:11] [info] -----
[2025-12-29 07:04:11] [info] | Rule ID      | Description                                | Error Count |
[2025-12-29 07:04:11] [info] |-----|-----|-----|
[2025-12-29 07:04:11] [info] | m3.6          | "m3.6 : min. m3 area : 0.24um^2"         | 1829         |
[2025-12-29 07:04:11] [info] | m3.1          | "m3.1 : min. m3 width : 0.3um"           | 1829         |
[2025-12-29 07:04:11] [info] | m2.6          | "m2.6 : min. m2 area : 0.0676um^2"       | 414          |
[2025-12-29 07:04:11] [info] | m2.1          | "m2.1 : min. m2 width : 0.14um"          | 92           |
[2025-12-29 07:04:11] [info] | m3.4          | "m3.4 : min. m3 enclosure of via2 : 0.065um" | 579          |
[2025-12-29 07:04:11] [info] | m1.6          | "m1.6 : min. m1 area : 0.083um^2"        | 20012        |
[2025-12-29 07:04:11] [info] | m1.1          | "m1.1 : min. m1 width : 0.14um"          | 1794         |
[2025-12-29 07:04:11] [info] |-----|-----|-----|
[2025-12-29 07:04:11] [info] -----
[2025-12-29 07:04:11] [info]                      Performance Metrics
[2025-12-29 07:04:11] [info] -----
[2025-12-29 07:04:11] [info] | Stage                | Time Taken |
[2025-12-29 07:04:11] [info] |-----|-----|
[2025-12-29 07:04:11] [info] | GDS Parsing           | 3 minutes 35 seconds |
[2025-12-29 07:04:11] [info] | Rule Checking         | 0 minutes 8 seconds  |
[2025-12-29 07:04:11] [info] | Report Generation     | 0 minutes 0 seconds  |

[2025-12-29 07:04:11] [info] -----
[2025-12-29 07:04:11] [info]                      Summary
[2025-12-29 07:04:11] [info] -----
[2025-12-29 07:04:11] [info] Total Errors:    26563
[2025-12-29 07:04:11] [info] Total Warnings:   114
[2025-12-29 07:04:11] [info] DRC Status:      FAILED

```

10.0.10 LVR DRC width result for 10B polygon GDSII Design

```
[2025-12-29 07:12:02] [info] =====
[2025-12-29 07:12:02] [info]                      Design Rule Check Report
[2025-12-29 07:12:02] [info] =====

[2025-12-29 07:12:02] [info] Report Generated:    2025-12-29
[2025-12-29 07:12:02] [info] Run Start Time:      07:04:28 AM
[2025-12-29 07:12:02] [info] Run End Time:        07:12:02 AM
[2025-12-29 07:12:02] [info] Time Taken:          7 minutes 34 seconds

[2025-12-29 07:12:02] [info] Tool Version:        LVR_2025.1
[2025-12-29 07:12:02] [info] Host Name:           ip-172-31-88-2
[2025-12-29 07:12:02] [info] User Name:           ubuntu
[2025-12-29 07:12:02] [info] Cores Used:          8
[2025-12-29 07:12:02] [info] Memory Utilized:     1140.34 MB / 61.77814865112305 GB

[2025-12-29 07:12:02] [info] -----
[2025-12-29 07:12:02] [info]                      Top Cell Information
[2025-12-29 07:12:02] [info] -----
[2025-12-29 07:12:02] [info] Layout Top Cell:     TOP
[2025-12-29 07:12:02] [info] Technology Node:      SKY130HD (130nm)
[2025-12-29 07:12:02] [info] Database Format:       GDSII
[2025-12-29 07:12:02] [info] Verification Mode:    Full Check

[2025-12-29 07:12:02] [info] -----
[2025-12-29 07:12:02] [info]                      Type of Errors | Count
[2025-12-29 07:12:02] [info] -----
[2025-12-29 07:12:02] [info] DB_WARN -> 1
[2025-12-29 07:12:02] [info] LRF_ERR001 -> 1
[2025-12-29 07:12:02] [info] DB_WARN002 -> 58
[2025-12-29 07:12:02] [info] DB_WARN003 -> 55
[2025-12-29 07:12:02] [info] -----
[2025-12-29 07:12:02] [info]                      Rule Violation Summary
[2025-12-29 07:12:02] [info] -----
[2025-12-29 07:12:02] [info] | Rule ID      | Description                               | Error Count |
[2025-12-29 07:12:02] [info] |-----|-----|-----|
[2025-12-29 07:12:02] [info]
[2025-12-29 07:12:02] [info] -----
[2025-12-29 07:12:02] [info]                      Performance Metrics
[2025-12-29 07:12:02] [info] -----
[2025-12-29 07:12:02] [info] | Stage          | Time Taken |
[2025-12-29 07:12:02] [info] |-----|-----|
[2025-12-29 07:12:02] [info] | GDS Parsing    | 3 minutes 42 seconds |
[2025-12-29 07:12:02] [info] | Rule Checking   | 0 minutes 0 seconds  |
[2025-12-29 07:12:02] [info] | Report Generation | 0 minutes 0 seconds  |

[2025-12-29 07:12:02] [info] -----
[2025-12-29 07:12:02] [info]                      Summary
[2025-12-29 07:12:02] [info] -----
[2025-12-29 07:12:02] [info] Total Errors:    1
[2025-12-29 07:12:02] [info] Total Warnings:  114
[2025-12-29 07:12:02] [info] DRC Status:      FAILED
```

10.0.11 LVR DRC enclosure result for 10B polygon GDSII Design

```
[2025-12-29 07:19:38] [info] =====
[2025-12-29 07:19:38] [info]                      Design Rule Check Report
[2025-12-29 07:19:38] [info] =====

[2025-12-29 07:19:38] [info] Report Generated:    2025-12-29
[2025-12-29 07:19:38] [info] Run Start Time:      07:12:19 AM
[2025-12-29 07:19:38] [info] Run End Time:        07:19:38 AM
[2025-12-29 07:19:38] [info] Time Taken:          7 minutes 18 seconds

[2025-12-29 07:19:38] [info] Tool Version:        LVR_2025.1
[2025-12-29 07:19:38] [info] Host Name:           ip-172-31-88-2
[2025-12-29 07:19:38] [info] User Name:           ubuntu
[2025-12-29 07:19:38] [info] Cores Used:          8
[2025-12-29 07:19:38] [info] Memory Utilized:     1140.34 MB / 61.77814865112305 GB

[2025-12-29 07:19:38] [info] -----
[2025-12-29 07:19:38] [info]                      Top Cell Information
[2025-12-29 07:19:38] [info] -----
[2025-12-29 07:19:38] [info] Layout Top Cell:     TOP
[2025-12-29 07:19:38] [info] Technology Node:      SKY130HD (130nm)
[2025-12-29 07:19:38] [info] Database Format:       GDSII
[2025-12-29 07:19:38] [info] Verification Mode:    Full Check

[2025-12-29 07:19:38] [info] -----
[2025-12-29 07:19:38] [info]                      Type of Errors | Count
[2025-12-29 07:19:38] [info] -----
[2025-12-29 07:19:38] [info] DB_WARN -> 1
[2025-12-29 07:19:38] [info] LRF_ERR001 -> 1
[2025-12-29 07:19:38] [info] DB_WARN002 -> 58
[2025-12-29 07:19:38] [info] DB_WARN003 -> 55
[2025-12-29 07:19:38] [info] -----
[2025-12-29 07:19:38] [info]                      Rule Violation Summary
[2025-12-29 07:19:38] [info] -----
[2025-12-29 07:19:38] [info] | Rule ID      | Description                               | Error Count |
[2025-12-29 07:19:38] [info] |-----|-----|-----|
[2025-12-29 07:19:38] [info]
[2025-12-29 07:19:38] [info] -----
[2025-12-29 07:19:38] [info]                      Performance Metrics
[2025-12-29 07:19:38] [info] -----
[2025-12-29 07:19:38] [info] | Stage          | Time Taken |
[2025-12-29 07:19:38] [info] |-----|-----|
[2025-12-29 07:19:38] [info] | GDS Parsing    | 3 minutes 34 seconds |
[2025-12-29 07:19:38] [info] | Rule Checking  | 0 minutes 0 seconds  |
[2025-12-29 07:19:38] [info] | Report Generation | 0 minutes 0 seconds  |

[2025-12-29 07:19:38] [info] -----
[2025-12-29 07:19:38] [info]                      Summary
[2025-12-29 07:19:38] [info] -----
[2025-12-29 07:19:38] [info] Total Errors:      1
[2025-12-29 07:19:38] [info] Total Warnings:    114
[2025-12-29 07:19:38] [info] DRC Status:        FAILED
```

10.0.12 LVR spacing result for 10B polygon GDSII Design

```
[2025-12-29 07:27:11] [info] =====
[2025-12-29 07:27:11] [info]                      Design Rule Check Report
[2025-12-29 07:27:11] [info] =====

[2025-12-29 07:27:11] [info] Report Generated:    2025-12-29
[2025-12-29 07:27:11] [info] Run Start Time:      07:19:55 AM
[2025-12-29 07:27:11] [info] Run End Time:        07:27:11 AM
[2025-12-29 07:27:11] [info] Time Taken:          7 minutes 15 seconds

[2025-12-29 07:27:11] [info] Tool Version:        LVR_2025.1
[2025-12-29 07:27:11] [info] Host Name:           ip-172-31-88-2
[2025-12-29 07:27:11] [info] User Name:           ubuntu
[2025-12-29 07:27:11] [info] Cores Used:          8
[2025-12-29 07:27:11] [info] Memory Utilized:     1140.34 MB / 61.77814865112305 GB

[2025-12-29 07:27:11] [info] -----
[2025-12-29 07:27:11] [info]                      Top Cell Information
[2025-12-29 07:27:11] [info] -----
[2025-12-29 07:27:11] [info] Layout Top Cell:     TOP
[2025-12-29 07:27:11] [info] Technology Node:      SKY130HD (130nm)
[2025-12-29 07:27:11] [info] Database Format:      GDSII
[2025-12-29 07:27:11] [info] Verification Mode:    Full Check

[2025-12-29 07:27:11] [info] -----
[2025-12-29 07:27:11] [info]                      Type of Errors | Count
[2025-12-29 07:27:11] [info] -----
[2025-12-29 07:27:11] [info] DB_WARN -> 1
[2025-12-29 07:27:11] [info] LRF_ERR001 -> 1
[2025-12-29 07:27:11] [info] DB_WARN002 -> 58
[2025-12-29 07:27:11] [info] DB_WARN003 -> 55
[2025-12-29 07:27:11] [info] -----
[2025-12-29 07:27:11] [info]                      Rule Violation Summary
[2025-12-29 07:27:11] [info] -----
[2025-12-29 07:27:11] [info] | Rule ID      | Description                               | Error Count |
[2025-12-29 07:27:11] [info] |-----|-----|-----|
[2025-12-29 07:27:11] [info]
[2025-12-29 07:27:11] [info] -----
[2025-12-29 07:27:11] [info]                      Performance Metrics
[2025-12-29 07:27:11] [info] -----
[2025-12-29 07:27:11] [info] | Stage          | Time Taken |
[2025-12-29 07:27:11] [info] |-----|-----|
[2025-12-29 07:27:11] [info] | GDS Parsing    | 3 minutes 32 seconds |
[2025-12-29 07:27:11] [info] | Rule Checking  | 0 minutes 0 seconds  |
[2025-12-29 07:27:11] [info] | Report Generation | 0 minutes 0 seconds  |

[2025-12-29 07:27:11] [info] -----
[2025-12-29 07:27:11] [info]                      Summary
[2025-12-29 07:27:11] [info] -----
[2025-12-29 07:27:11] [info] Total Errors:      1
[2025-12-29 07:27:11] [info] Total Warnings:    114
[2025-12-29 07:27:11] [info] DRC Status:        FAILED
```

10.0.13 LVR Min Density result for 10B polygon GDSII Design

```
[2025-12-29 07:34:54] [info] =====
[2025-12-29 07:34:54] [info]                      Density Rule Check Report
[2025-12-29 07:34:54] [info] =====

[2025-12-29 07:34:54] [info] Report Generated:    2025-12-29
[2025-12-29 07:34:54] [info] Run Start Time:      07:27:28 AM
[2025-12-29 07:34:54] [info] Run End Time:        07:34:54 AM
[2025-12-29 07:34:54] [info] Time Taken:          7 minutes 25 seconds

[2025-12-29 07:34:54] [info] Tool Version:        LVR_2025.1
[2025-12-29 07:34:54] [info] Host Name:           ip-172-31-88-2
[2025-12-29 07:34:54] [info] User Name:           ubuntu
[2025-12-29 07:34:54] [info] Cores Used:          1
[2025-12-29 07:34:54] [info] Memory Utilized:     1119.54 MB / 61.77814865112305 GB

[2025-12-29 07:34:54] [info] -----
[2025-12-29 07:34:54] [info]                      Top Cell Information
[2025-12-29 07:34:54] [info] -----
[2025-12-29 07:34:54] [info] Layout Top Cell:     TOP
[2025-12-29 07:34:54] [info] Technology Node:      SKY130HD (130nm)
[2025-12-29 07:34:54] [info] Database Format:      GDSII
[2025-12-29 07:34:54] [info] Verification Mode:    Full Check

[2025-12-29 07:34:54] [info] -----
[2025-12-29 07:34:54] [info]                      Type of Errors | Count
[2025-12-29 07:34:54] [info] -----
[2025-12-29 07:34:54] [info] DB_WARN -> 1
[2025-12-29 07:34:54] [info] LRF_ERR001 -> 1
[2025-12-29 07:34:54] [info] DB_WARN002 -> 58
[2025-12-29 07:34:54] [info] DB_WARN003 -> 55
[2025-12-29 07:34:54] [info] -----
[2025-12-29 07:34:54] [info]                      Density Rule Violation Summary
[2025-12-29 07:34:54] [info] -----
[2025-12-29 07:34:54] [info] | Rule ID      | Description                               | Error Count |
[2025-12-29 07:34:54] [info] |-----|-----|-----|
[2025-12-29 07:34:54] [info]
[2025-12-29 07:34:54] [info] -----
[2025-12-29 07:34:54] [info]                      Performance Metrics
[2025-12-29 07:34:54] [info] -----
[2025-12-29 07:34:54] [info] | Stage          | Time Taken |
[2025-12-29 07:34:54] [info] |-----|-----|
[2025-12-29 07:34:54] [info] | GDS Parsing    | 3 minutes 35 seconds |
[2025-12-29 07:34:54] [info] | Rule Checking   | 0 minutes 0 seconds  |
[2025-12-29 07:34:54] [info] | Report Generation | 0 minutes 0 seconds  |

[2025-12-29 07:34:54] [info] -----
[2025-12-29 07:34:54] [info]                      Summary
[2025-12-29 07:34:54] [info] -----
[2025-12-29 07:34:54] [info] Total Errors:      1
[2025-12-29 07:34:54] [info] Total Warnings:    114
[2025-12-29 07:34:54] [info] DENSITY Status:    FAILED
```

10.0.14 LVR Max Density result for 10B polygon GDSII Design

```
[2025-12-29 07:42:41] [info] =====
[2025-12-29 07:42:41] [info]                      Density Rule Check Report
[2025-12-29 07:42:41] [info] =====

[2025-12-29 07:42:41] [info] Report Generated:    2025-12-29
[2025-12-29 07:42:41] [info] Run Start Time:      07:35:12 AM
[2025-12-29 07:42:41] [info] Run End Time:        07:42:41 AM
[2025-12-29 07:42:41] [info] Time Taken:          7 minutes 28 seconds

[2025-12-29 07:42:41] [info] Tool Version:        LVR_2025.1
[2025-12-29 07:42:41] [info] Host Name:           ip-172-31-88-2
[2025-12-29 07:42:41] [info] User Name:           ubuntu
[2025-12-29 07:42:41] [info] Cores Used:          1
[2025-12-29 07:42:41] [info] Memory Utilized:     1119.54 MB / 61.77814865112305 GB

[2025-12-29 07:42:41] [info] -----
[2025-12-29 07:42:41] [info]                      Top Cell Information
[2025-12-29 07:42:41] [info] -----
[2025-12-29 07:42:41] [info] Layout Top Cell:     TOP
[2025-12-29 07:42:41] [info] Technology Node:      SKY130HD (130nm)
[2025-12-29 07:42:41] [info] Database Format:      GDSII
[2025-12-29 07:42:41] [info] Verification Mode:    Full Check

[2025-12-29 07:42:41] [info] -----
[2025-12-29 07:42:41] [info]                      Type of Errors | Count
[2025-12-29 07:42:41] [info] -----
[2025-12-29 07:42:41] [info] DB_WARN -> 1
[2025-12-29 07:42:41] [info] LRF_ERR001 -> 1
[2025-12-29 07:42:41] [info] DB_WARN002 -> 58
[2025-12-29 07:42:41] [info] DB_WARN003 -> 55
[2025-12-29 07:42:41] [info] -----
[2025-12-29 07:42:41] [info]                      Density Rule Violation Summary
[2025-12-29 07:42:41] [info] -----
[2025-12-29 07:42:41] [info] | Rule ID      | Description                               | Error Count |
[2025-12-29 07:42:41] [info] |-----|-----|-----|
[2025-12-29 07:42:41] [info]
[2025-12-29 07:42:41] [info] -----
[2025-12-29 07:42:41] [info]                      Performance Metrics
[2025-12-29 07:42:41] [info] -----
[2025-12-29 07:42:41] [info] | Stage          | Time Taken |
[2025-12-29 07:42:41] [info] |-----|-----|
[2025-12-29 07:42:41] [info] | GDS Parsing    | 3 minutes 40 seconds |
[2025-12-29 07:42:41] [info] | Rule Checking   | 0 minutes 0 seconds  |
[2025-12-29 07:42:41] [info] | Report Generation | 0 minutes 0 seconds  |

[2025-12-29 07:42:41] [info] -----
[2025-12-29 07:42:41] [info]                      Summary
[2025-12-29 07:42:41] [info] -----
[2025-12-29 07:42:41] [info] Total Errors:      1
[2025-12-29 07:42:41] [info] Total Warnings:    114
[2025-12-29 07:42:41] [info] DENSITY Status:    FAILED
```

10.0.15 LVR Min Max result for 10B polygon GDSII Design

```
[2025-12-29 07:50:24] [info] =====
[2025-12-29 07:50:24] [info]                      Density Rule Check Report
[2025-12-29 07:50:24] [info] =====

[2025-12-29 07:50:24] [info] Report Generated:    2025-12-29
[2025-12-29 07:50:24] [info] Run Start Time:      07:42:59 AM
[2025-12-29 07:50:24] [info] Run End Time:        07:50:24 AM
[2025-12-29 07:50:24] [info] Time Taken:          7 minutes 24 seconds

[2025-12-29 07:50:24] [info] Tool Version:        LVR_2025.1
[2025-12-29 07:50:24] [info] Host Name:            ip-172-31-88-2
[2025-12-29 07:50:24] [info] User Name:            ubuntu
[2025-12-29 07:50:24] [info] Cores Used:           1
[2025-12-29 07:50:24] [info] Memory Utilized:      1119.54 MB / 61.77814865112305 GB

[2025-12-29 07:50:24] [info] -----
[2025-12-29 07:50:24] [info]                      Top Cell Information
[2025-12-29 07:50:24] [info] -----
[2025-12-29 07:50:24] [info] Layout Top Cell:      TOP
[2025-12-29 07:50:24] [info] Technology Node:       SKY130HD (130nm)
[2025-12-29 07:50:24] [info] Database Format:        GDSII
[2025-12-29 07:50:24] [info] Verification Mode:     Full Check

[2025-12-29 07:50:24] [info] -----
[2025-12-29 07:50:24] [info]                      Type of Errors | Count
[2025-12-29 07:50:24] [info] -----
[2025-12-29 07:50:24] [info] DB_WARN -> 1
[2025-12-29 07:50:24] [info] LRF_ERR001 -> 1
[2025-12-29 07:50:24] [info] DB_WARN002 -> 58
[2025-12-29 07:50:24] [info] DB_WARN003 -> 55
[2025-12-29 07:50:24] [info] -----
[2025-12-29 07:50:24] [info]                      Density Rule Violation Summary
[2025-12-29 07:50:24] [info] -----
[2025-12-29 07:50:24] [info] | Rule ID      | Description                               | Error Count |
[2025-12-29 07:50:24] [info] |-----|-----|-----|
[2025-12-29 07:50:24] [info]
[2025-12-29 07:50:24] [info] -----
[2025-12-29 07:50:24] [info]                      Performance Metrics
[2025-12-29 07:50:24] [info] -----
[2025-12-29 07:50:24] [info] | Stage          | Time Taken |
[2025-12-29 07:50:24] [info] |-----|-----|
[2025-12-29 07:50:24] [info] | GDS Parsing     | 3 minutes 38 seconds |
[2025-12-29 07:50:24] [info] | Rule Checking    | 0 minutes 0 seconds  |
[2025-12-29 07:50:24] [info] | Report Generation | 0 minutes 0 seconds  |

[2025-12-29 07:50:24] [info] -----
[2025-12-29 07:50:24] [info]                      Summary
[2025-12-29 07:50:24] [info] -----
[2025-12-29 07:50:24] [info] Total Errors:      1
[2025-12-29 07:50:24] [info] Total Warnings:     114
[2025-12-29 07:50:24] [info] DENSITY Status:     FAILED
```

Chapter 11

Appendix C — Revisions and Experiment History

Each experimental addition will be recorded here with:

- Date
- Configuration hash
- Description
- Affected sections