



Analysis and prediction tools for scalable cloud solutions

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NOTABLE



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CloudScale in a nutshell

1 Extracting Model

```
01011110000011
01000111010101
01000101010101
11111000101010
01010100011110
```



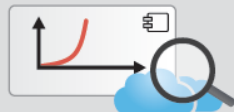
CloudScale's Extractor provides an automated transformation from existing code to a system model

2 Predicting Scalability

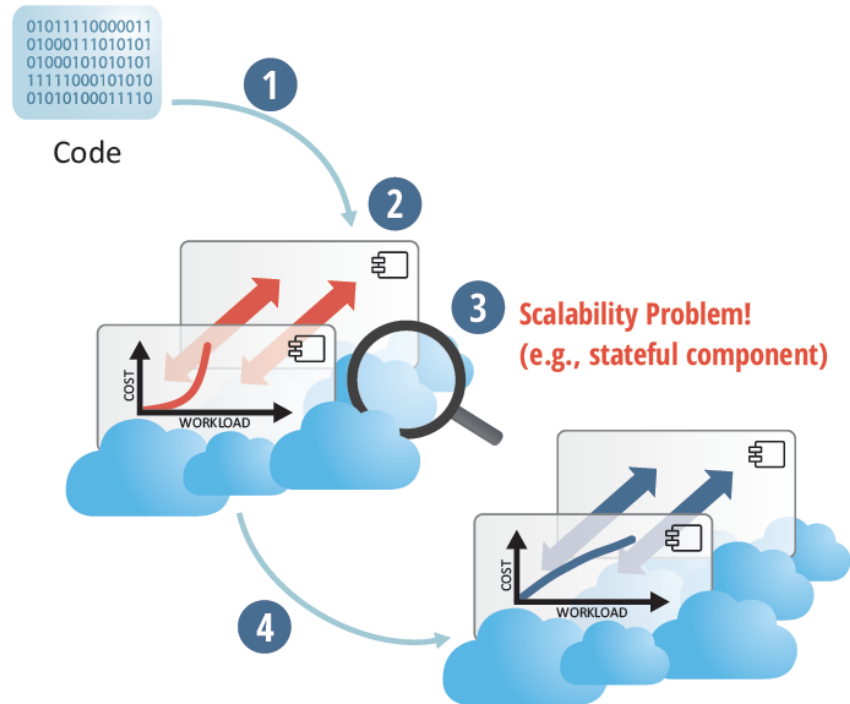


CloudScale's Analyser predicts scalability at design time (e.g., costs for serving an increasing number of customers)

3 Detecting Scalability Problems



CloudScale's Spotter detects scalability problems (CloudScale Scalability Anti-Patterns) and their root causes

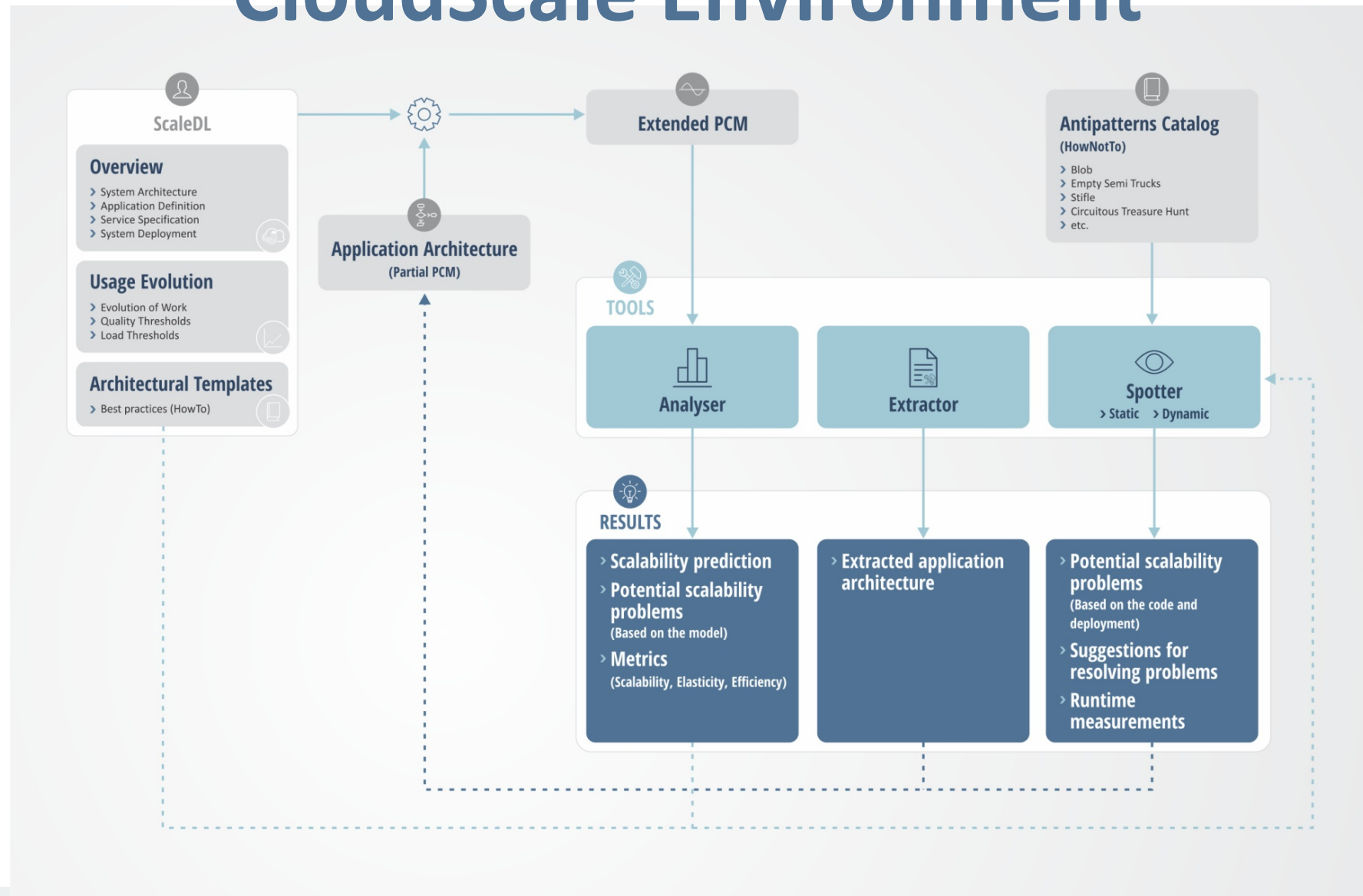


4 Resolving Problems



CloudScale's HowTos provide guidelines for solving scalability issues

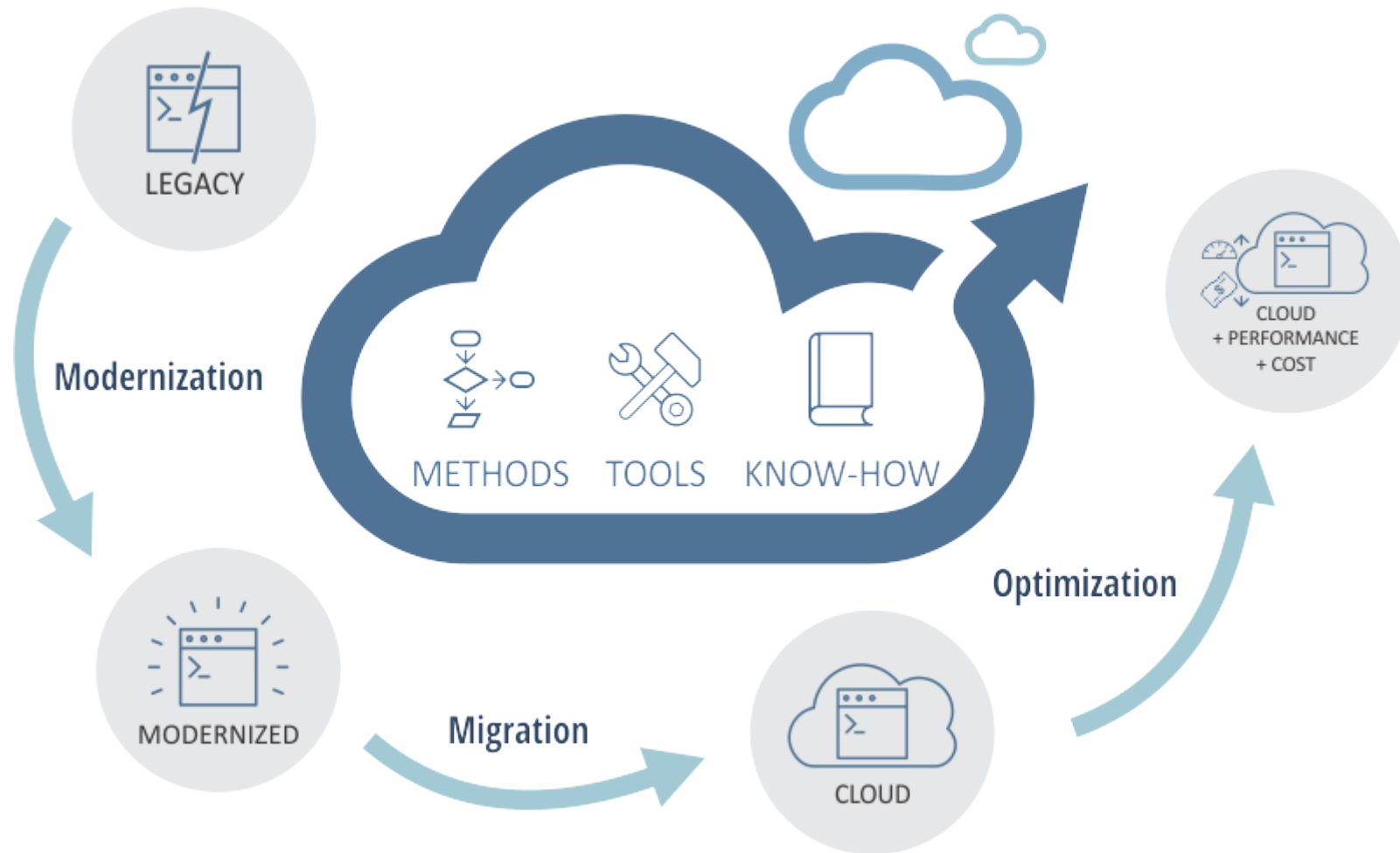
CloudScale Environment



Benefits




- **Make cloud systems scalable by design**
 - Following best practices
 - Using defined scalable architectural templates
- **Improve scalability of existing cloud systems**
 - Identifying scalability problems in the code
 - Finding scalability problems during run-time
- **Improve efficiency and reduce operational costs**
 - Improving scalability while reducing risks
 - Finding minimum necessary resources for expected load
 - With simulation or measurements
 - Comparing capacity and costs of cloud and technology providers
 - With measured or simulated metrics

Showcase: CloudStore



Thank you












Contact us:

- www.cloudscale-project.eu
 - wiki.cloudscale-project.eu/index.php/Wiki/
 -  github.com/CloudScale-Project
 -  [@CloudScaleEU](https://twitter.com/CloudScaleEU)
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Detect Issues: The Static Spotter

Annotation	Rating	Annotated Elements
▲  AcquireReleasePair (2 annotations)		
▶  AcquireReleasePair	100,00%	acquire= de.uka.ipd.sdq.pcm.seff.imp
▶  AcquireReleasePair	100,00%	acquire= de.uka.ipd.sdq.pcm.seff.imp
▶  FindMethods (208 annotations)		
▶  FindPrimitiveComponents (72 annotations)		
▲  SynchronizedMethod (5 annotations)		
▶  SynchronizedMethod	100,00%	synchronizedMethods= org.eclipse.gi
▶  SynchronizedMethod	100,00%	synchronizedMethods= org.eclipse.gi
▶  SynchronizedMethod	100,00%	synchronizedMethods= org.eclipse.gi
▶  SynchronizedMethod	100,00%	synchronizedMethods= org.eclipse.gi
▶  SynchronizedMethod	100,00%	synchronizedMethods= org.eclipse.gi

Detect Issues: Hierarchy

- **Example:** Quality Issue causing “Varying Response Times”

