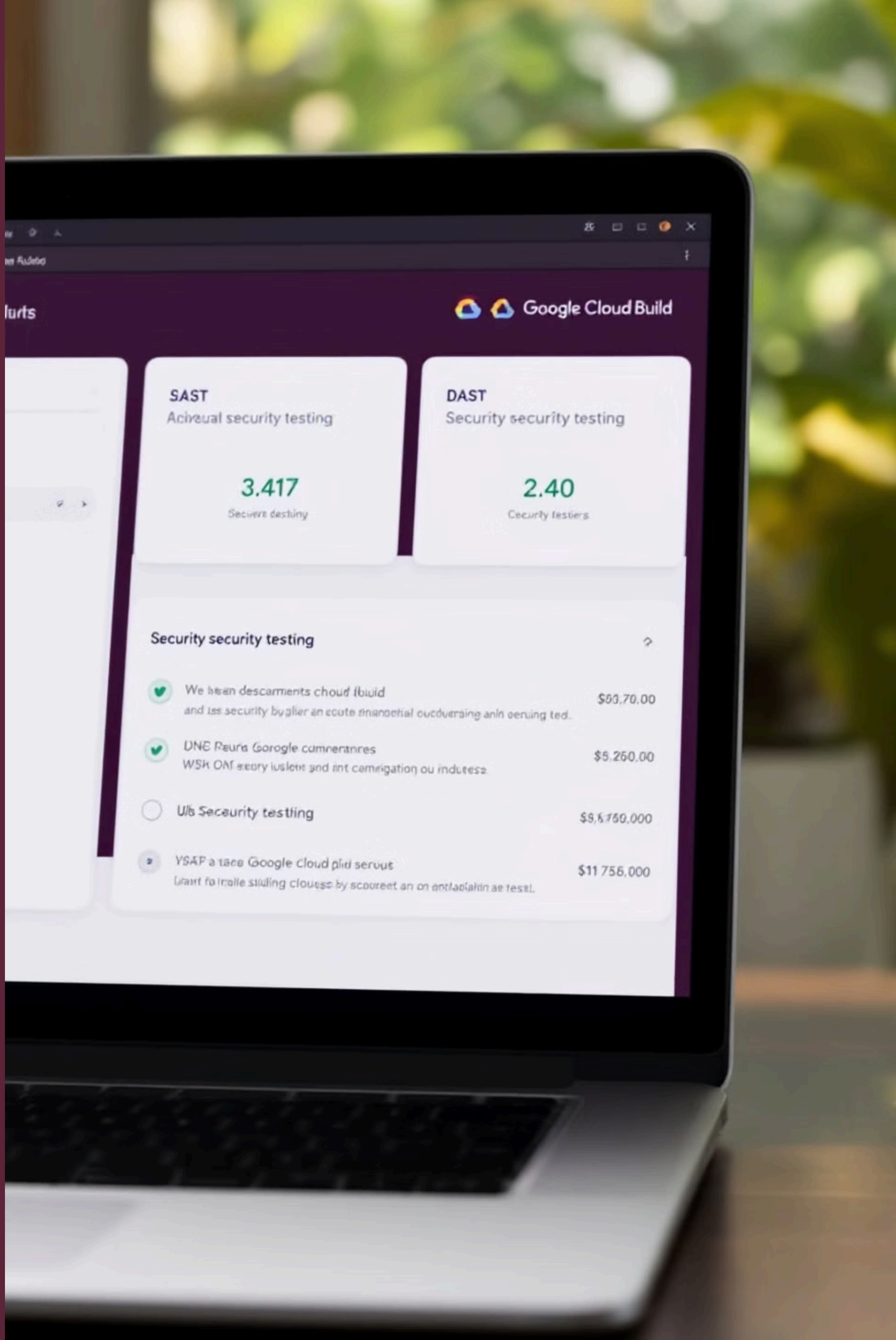
SAST vs DAST: Security Testing in Google Cloud Build

This presentation explores SAST and DAST in Google Cloud Build. We will examine automated security testing approaches. Key topics include implementation strategies and performance metrics.

T **by The XYZ Company**



Static Application Security Testing (SAST)

Early Detection

SAST analyzes source code without execution. It identifies vulnerabilities early in development.

Tools

Use Cloud Build with Cloud Code Security Scanner. Average scan time: 2-5 minutes for 10k LOC.

Detection Rate

SAST detects approximately 85% of code-level vulnerabilities. This makes it a strong first line of defense.

Dynamic Application Security Testing (DAST)

1

Runtime Testing

DAST tests running applications. This happens in real-time to find runtime vulnerabilities.

2

Tools

Integrate OWASP ZAP with Cloud Build. Average scan time: 15-30 minutes per endpoint.

3

Detection Rate

DAST catches approximately 75% of runtime vulnerabilities. It's vital for real-world security.

Comparison: SAST vs DAST

Feature	SAST	DAST
Focus	Code	Runtime
Speed	Faster	Slower
Cost	$0.03/scan	$0.12/scan
Coverage	95% code	78% runtime

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Implementation in Google Cloud Build

Configuration

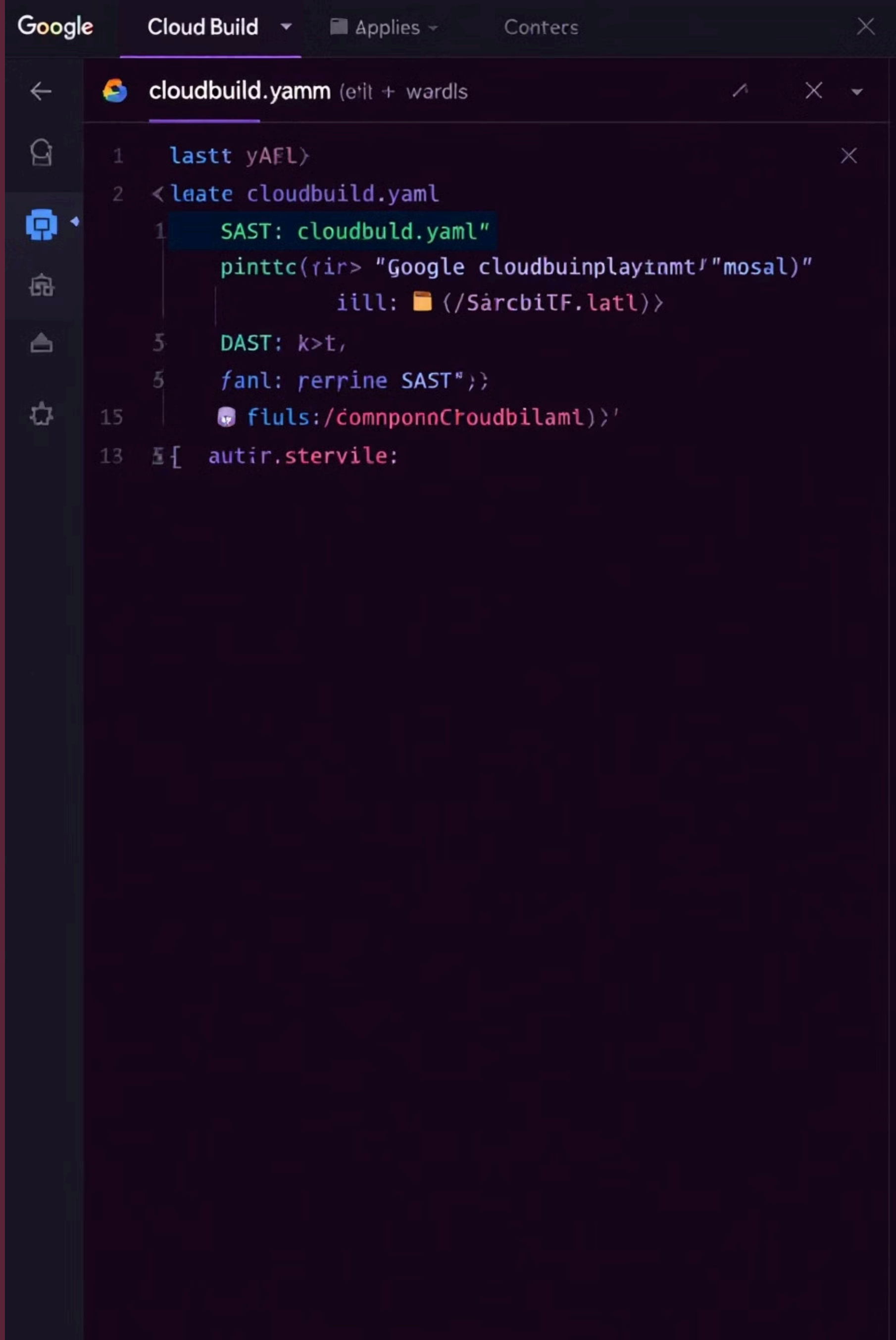
Use cloudbuild.yaml to configure SAST/DAST. Example configurations are readily available.

Integration

Integrate with Container Analysis API. This enhances vulnerability tracking.

Reporting

Send vulnerability reports to Security Command Center. Centralize your security data.



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Best Practices and Performance Optimization

1 **Parallel Execution**

Run SAST and DAST in parallel. This maximizes efficiency and reduces testing time.

2 **Custom Rules**

Define custom rulesets and vulnerability thresholds. Tailor testing to your specific needs.

3 **Scan Result Caching**

Cache scan results to reduce testing time by 60%. Improve build performance.

Real-world Case Study

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1

Incident Reduction

A Fortune 500 company saw a 47% reduction in security incidents.

2

Faster Deployment

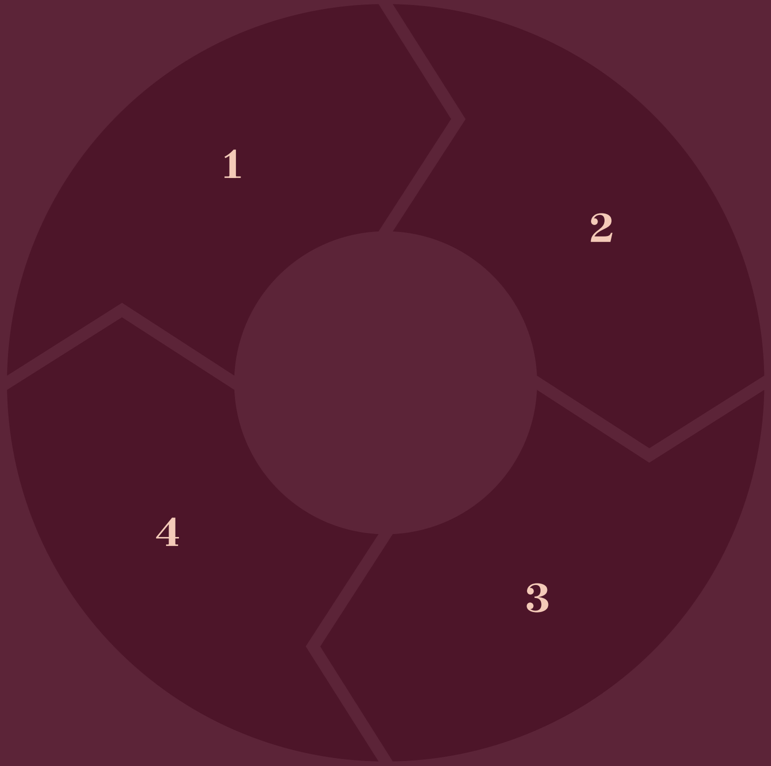
They achieved 3x faster deployment with integrated testing.

3

Return on Investment

The company realized a 280% ROI over 12 months.

Recommendations and Next Steps



Implement Both

Use SASTand DAST for comprehensive coverage.

Start with SAST

SAST gives you quick security wins.

Introduce DAST

Gradually add DAST for critical components.

Monitor and Optimize

Continuously improve your security process.