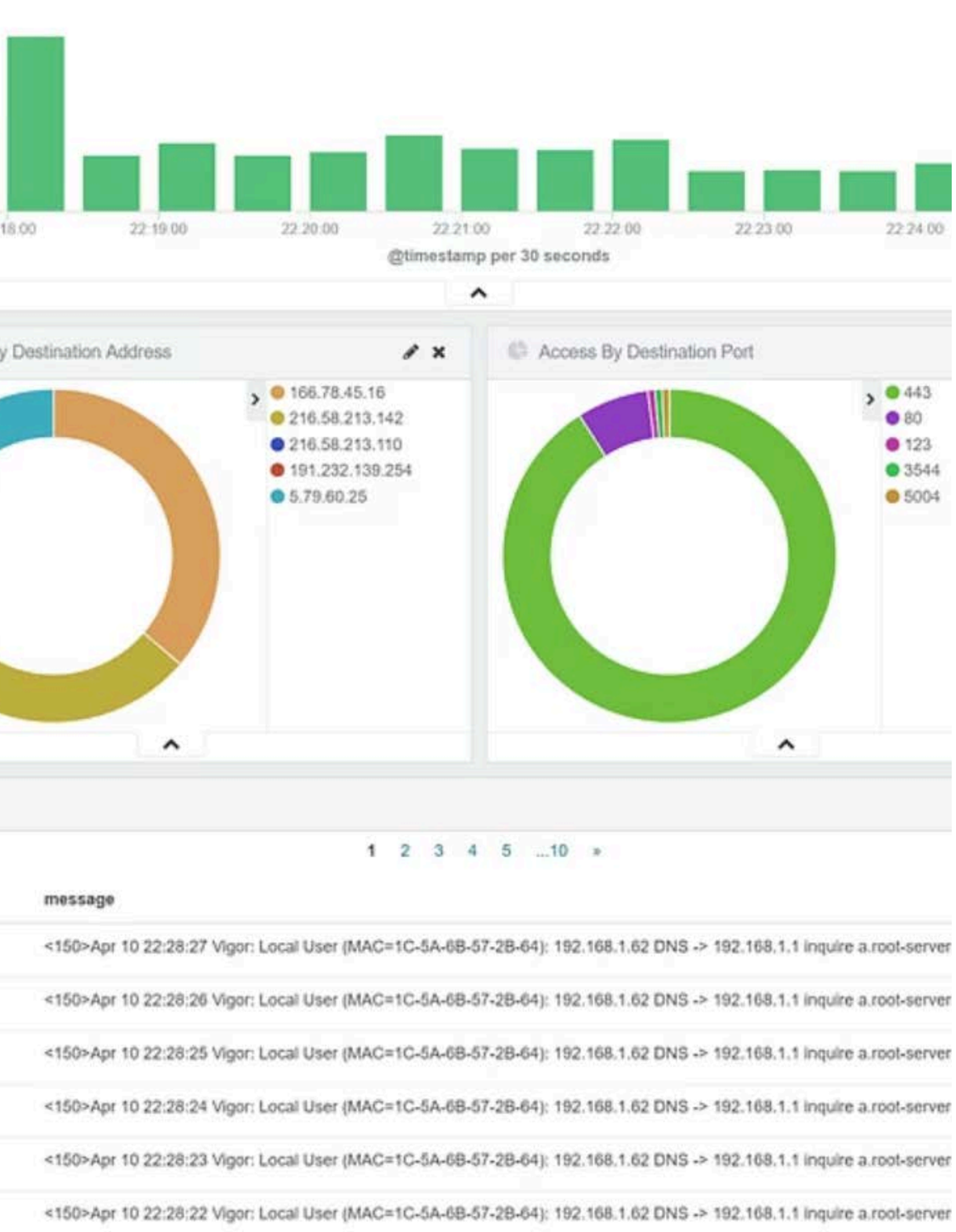


Observability Starts Before the Outage: **Synthetic Monitoring for Modern Systems**

What is Synthetic Monitoring?

Definition

- Simulate user interactions to catch issues proactively

Key Features

- Tests real user journeys: login, checkout
- Runs 24/7 from multiple locations
- Catches issues before users notice

Why Synthetic Monitoring Matters?

Key Challenges

- Complex systems: microservices, serverless, APIs
- High user expectations for seamless experience
- Distributed teams and global users demand reliability
- AI-driven monitoring provides predictive insights

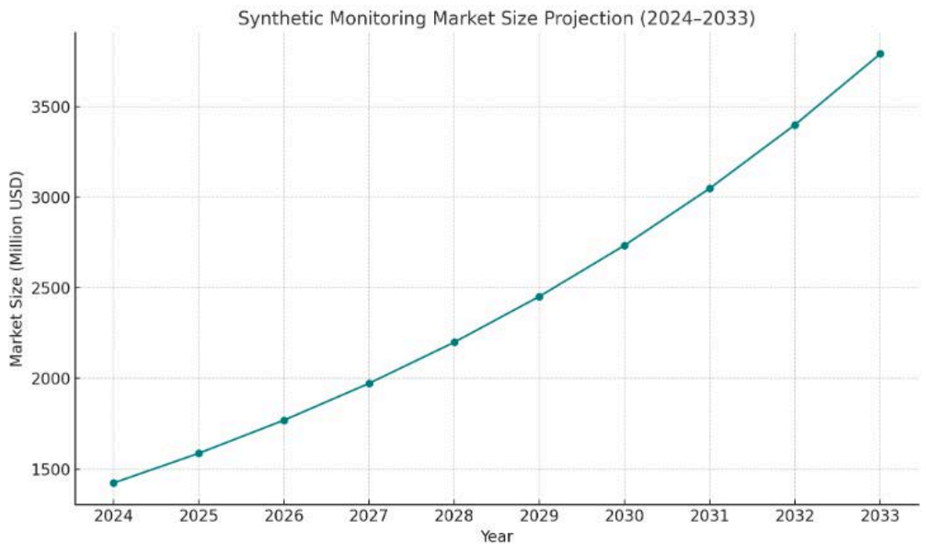
2024 Study DATA

Downtime costs

$100k/hour for Online Store

2-seconds delay=20% drop in customers

Synthetic Monitoring Trends in 2025



Market Insights

- Market reached $1.423B in 2024.
- Projected to grow to $3.783B by 2033 at 11.5% CAGR.

Key Growth Drivers

- Rapid cloud adoption
- Integration of AI in monitoring tools
- Shift towards proactive monitoring strategies

Types of Synthetic Monitors

API Monitors

Test backend endpoints

Browser-Based Monitors

Simulate real browser interactions

Scripted Monitors

Custom user journey scripts

Ping Monitors

Check server availability

SSL/TLS Certificate Monitors

Ensure secure connections

How to Implement Synthetic Monitoring

Identify critical user journeys, transactions, and APIs

Create synthetic scripts simulating real user flows

Select a monitoring tool available in the market

Schedule tests to run 24/7 from global locations.

Set up proactive alerts for issues.

Analyze data regularly to optimize performance.

Tools for Synthetic Monitoring

Key Features

- Multi-region testing
- Observability integration
- AI-driven insights
- Custom scripting support

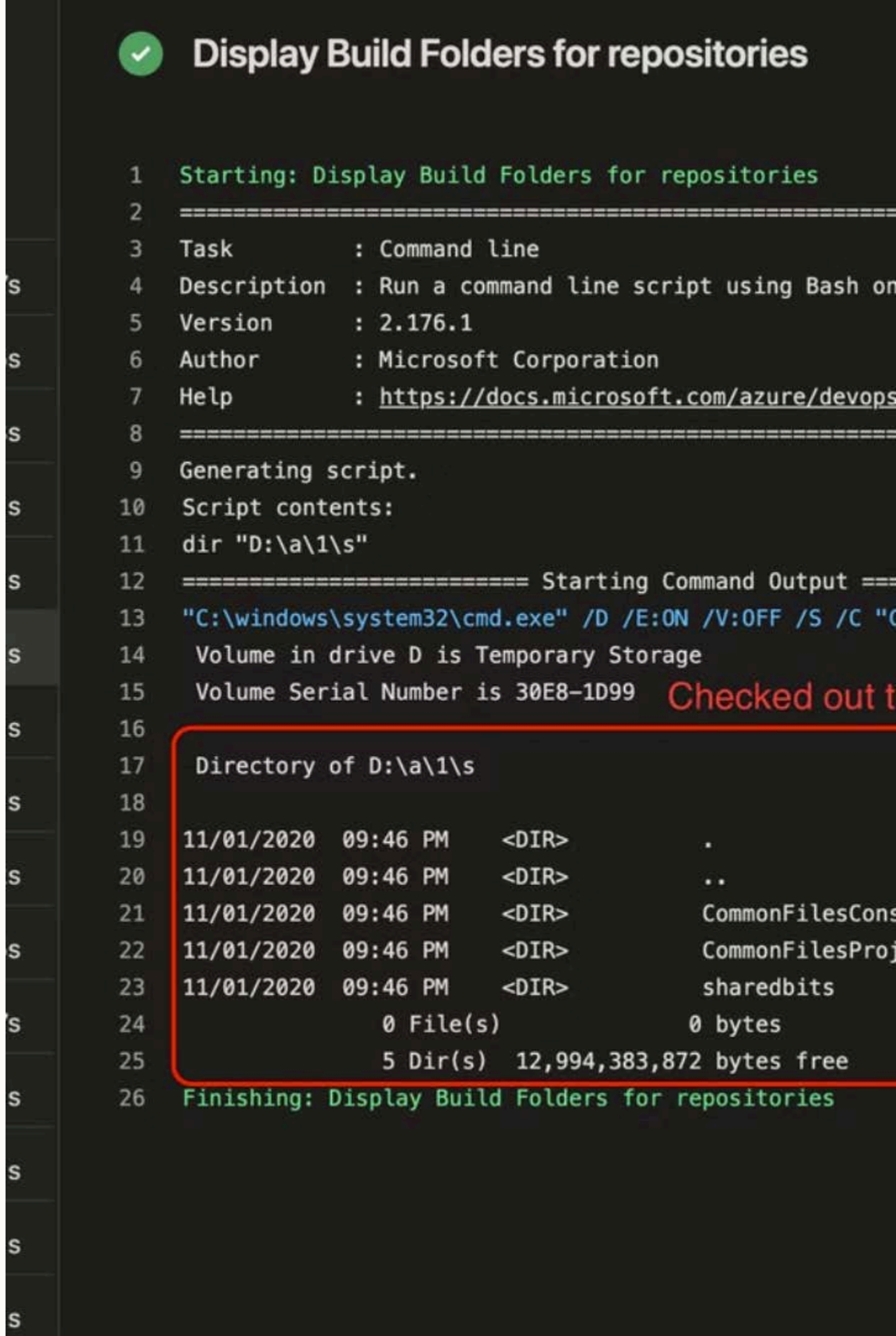
Tips for Writing Useful Synthetic Tests

Best Practices

- Test from multiple regions
- Set realistic thresholds
- Focus alerts on critical issues
- Validate end-to-end flows

Example

Reduced false positives by 30% with tuned thresholds



Key Takeaways

- Synthetic monitoring catches issues before users do
- Focus on critical user journeys
- Integrate with your observability stack
- Leverage AI for predictive insights

Thank You

Question?