

Title: Ensuring IT Infrastructure Reliability Through Robust Monitoring and Actionable Alerting

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Introduction:

- What is monitoring, what is alerting for a IT infrastructure?
- how robust monitoring and actionable alerting drive system reliability



Why Monitoring Matters:

- Cloud systems are dynamic and complex
- Challenges: latency, downtimes, performance bottlenecks
- Monitoring helps prevent incidents before users are impacted



Tools in Action :

- Tools evaluated: Prometheus, Datadog, New Relic
- Platforms: AWS, Azure, Google Cloud
- Real-world deployment in a health insurance company



Essential Factors to Monitor :

- Latency
- Throughput
- CPU & Memory Usage
- Operational Cost



Real-World Impact :

- AWS latency reduced from 100ms → 80ms
- Azure throughput increased from 1900 → 2400 req/sec
- Downtime reduced by ~15%



Trade-offs & Overheads :

- CPU usage increased by 5-8%
- Cost increased by ~12%
- Importance of configuring tools smartly to minimize overhead



Preventing Alert Fatigue :

- Use of smart thresholds
- Focus on critical KPIs
- Avoid over-monitoring to reduce false alarms



Best Practices :

- Select tools based on environment and need
- Continuously evaluate overhead vs benefits
- Integrate with existing workflows for actionable alerts



Future Scope: AI-driven Monitoring :

- Predict issues before they occur
- Optimize performance without constant monitoring
- Reduce resource consumption and operational cost



Conclusion:

- Robust monitoring = better performance, less downtime
- Balance between visibility and resource usage is key
- Smart configuration and future-ready tools are essential



Thank You! :

- Questions & Discussion
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