

Urgent Cloud Deployment Practices and Insights

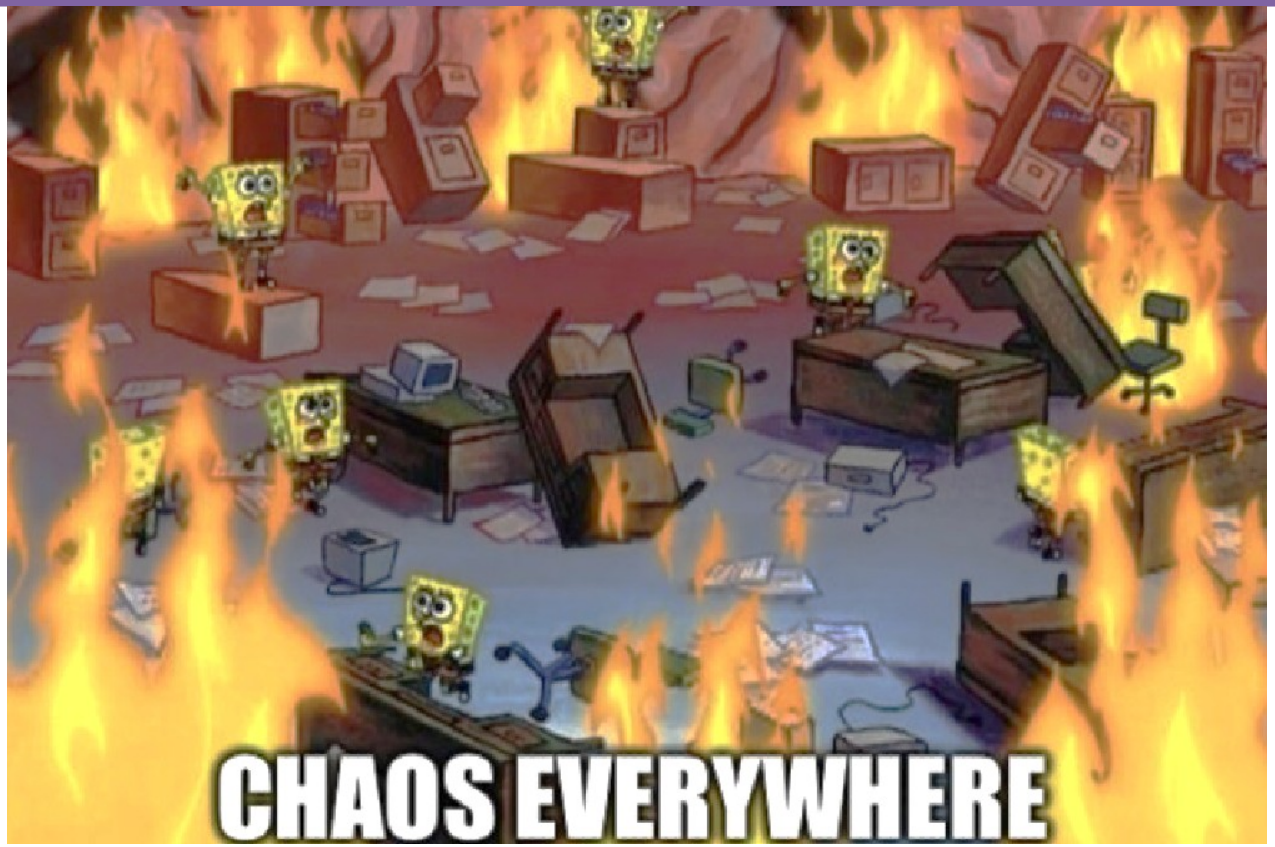
Ensuring Seamless and Secure Cloud Deployments Under Tight Timelines

Speaker Introduction



- **9+ years of software product development experience** and a strong track record of driving product innovation, automating processes, and leading critical program.
- Currently at **Microsoft**, Sangeetha plays a key role in shaping product strategies and technical execution for **large-scale cloud infrastructure.**
- **Master's degree** in engineering management with a specialization in Product Management from **Cornell University**.
- Worked across various sectors, including Consulting, Fintech, and Enterprise Solutions.
- Additionally, she **mentors** early-career professionals at Microsoft, ADPList, and Topmate.io.
- Nature Lover and Great Cook per her Friends ☺

Urgent Rollouts ??



Why are Urgent Rollouts hard ?

- **Resource Constraints** (If your deployments are not fully automated)
- **Quick Decision** (Might require sign-off from several stakeholders)
- **Service Disruptions** (Impacting your SLI/ SLOs)

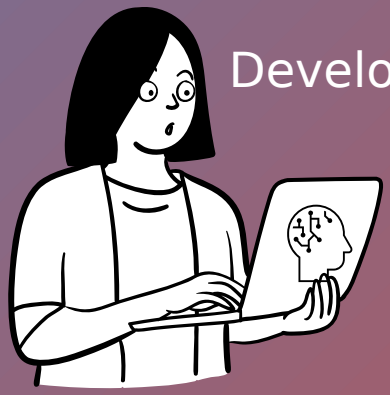
Common Scenarios for Urgent Rollouts

System Failures	• Disrupt operation of services • Critical bugs affecting the user experience
Security Breaches	• Vulnerable code attacks such as DDOS, SQL injection, etc., • Security Fix from the Vendor (AMD, Intel, Nvidia) chips
Compliance Updates	• Changes related to regulatory policies
Feature Rollbacks	• Unexpected service complications reverting to stable version
Disaster Recovery	• Regional/Cloud level service failures

Security Rollout - Use Case

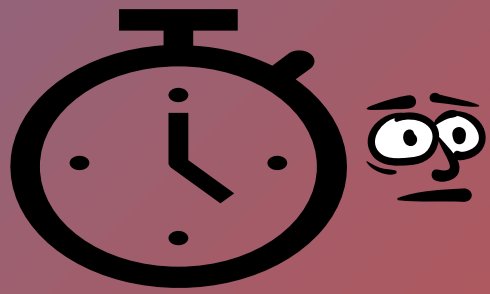


Security POC



Developer

Traditional IT deployment



Tick Tock



Crying

Urgent deployment without automation. Frustrating!

Tale of Traditional IT deployment

Manual Process- With SOPs, Risk of Human Error and inefficiencies increases.

Longer Deployment Times - Hinders the timely response to changes such as Urgent rollout.

Downtime Risks – Legacy systems often require scheduled maintenance windows, leading to service disruptions.

Data Migration Issues – Transferring data between old and new systems can result in corruption or loss.

Rollback Complexity – Unlike cloud environments, traditional IT systems lacks seamless rollback mechanisms.

Limited Scalability – Traditional systems may struggle to handle sudden spikes in demand.

Stakeholder Misalignment – Poor communication between IT and business teams can lead to deployment delays.

Emergency/ Urgent Rollout Solution(s)



Emergency Deployment Guide for Cloud Services

1. **Incident Identification** – Clear criteria for recognizing emergencies and triggering response actions.
2. **Roles & Responsibilities** – Defined roles for team members, including decision-makers and responders.
3. **Communication Plan** – Protocols for internal and external communication, including escalation paths.
4. **Response Procedures** – Step-by-step actions for different types of emergencies (e.g., security breaches, outages).
5. **Recovery & Continuity** – Strategies for restoring operations and minimizing downtime.
6. **Documentation & Reporting** – Guidelines for logging incidents, analyzing root causes, and improving future responses.

Automated Update System



Streamlined Update Process

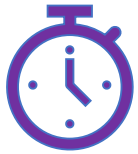
- Rolling Deployment with reduced stage wise gating/ SDP
- Elevate Rollout
- Highly available systems with redundancy
- Vacating the node upon cloud capacity
- Utilizing Live Migration technology



Reducing Human Error/ Manual process

- Streamline deployment to all affected resources with faster rollout

• Blue Green Deployments
• Rolling Update (gradual)
• Canary Rollouts



Timely Implementation

- Awareness of the Rollout Internally to all stakeholder with deployment/ Incident banner
- Real time telemetry
- Real time monitoring & closure

Urgent Cloud Services Deployment Key Practices



Implementing CI/CD pipelines for automated deployments.



Utilizing Infrastructure as Code (IaC) for consistent environments.



Conducting regular security audits and vulnerability assessments.

Future with AI for urgent updates

AI driven Update Mechanisms

- ✓ **Predictive Analytics** to forecast when update are necessary
- ✓ **Advanced Threat Detections** to identify vulnerabilities real time
- ✓ **Automated, AI-driven cloud service updates** scheduled based on the customer’s business activity.
- ✓ **Proactive Response Strategies** to address the security threat before the breach (Prevention is the key!) with the AI
- ✓ **AI utilization of user feedback and ICM** to initiate security and compliance updates, leading to code fixes.

Urgent Deployment Takeaways

- Effective planning reduces operational disruptions, particularly for CVE-based security risks.
- Utilize threat detection and security readiness at every stage.
- Invest in cloud deployment automation with rollback options and real-time monitoring.
- Stay calm and execute emergency rollouts.

Thank you

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