

Enhancing Container Orchestration with Operational Workflow Automation



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- xMatters/Everbridge 2 years
- Previously ~10 years in development as Product Manager, Architect, and SRE/SRE Manager
- Cloud Migrations to Microservice and Container Implementation



What is Container Orchestration?

The use of automated tools to manage the tasks required to run a containerized service

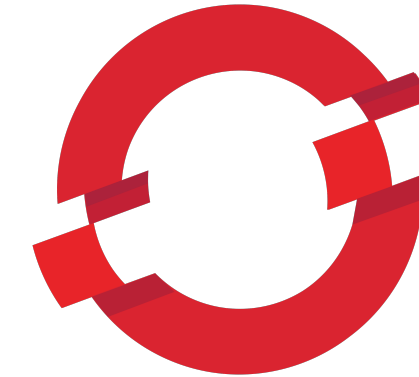
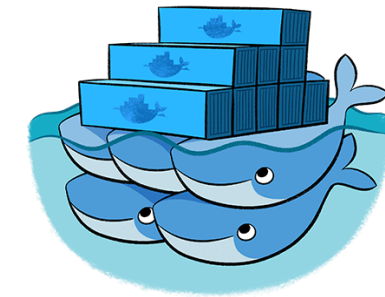
Why is Container Orchestration Important

- Integrates with other tools in container lifecycle
- Allows for the use of containers at scale
 - + 10s, 100s, 1000s of containers
- Automates management tasks
 - + Adding/Removing
 - + Balancing
 - + Recovery
- Schedules container resources efficiently and effectively

Container Orchestration Tools

Self Hosted

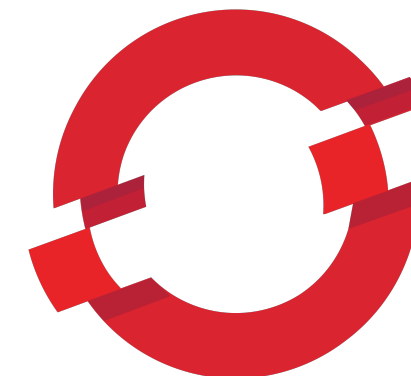
- Pure Container Orchestration
 - + Kubernetes
 - + RedHat OpenShift
 - + Docker Swarm
- Hybrid Workload Orchestration
 - + Hashicorp Nomad
 - + Apache Mesos



Container Orchestration Tools

Managed

- Google
 - + Google Kubernetes Engine (GKE)
 - + Cloud Run
- AWS
 - + Elastic Kubernetes Service (EKS)
 - + EC2 Container Service (ECS)
 - + Fargate
- Azure
 - + Azure Kubernetes Service (AKS)
 - + Azure Managed OpenShift Service
 - + Azure Container Instances
- Red Hat
 - + OpenShift Online

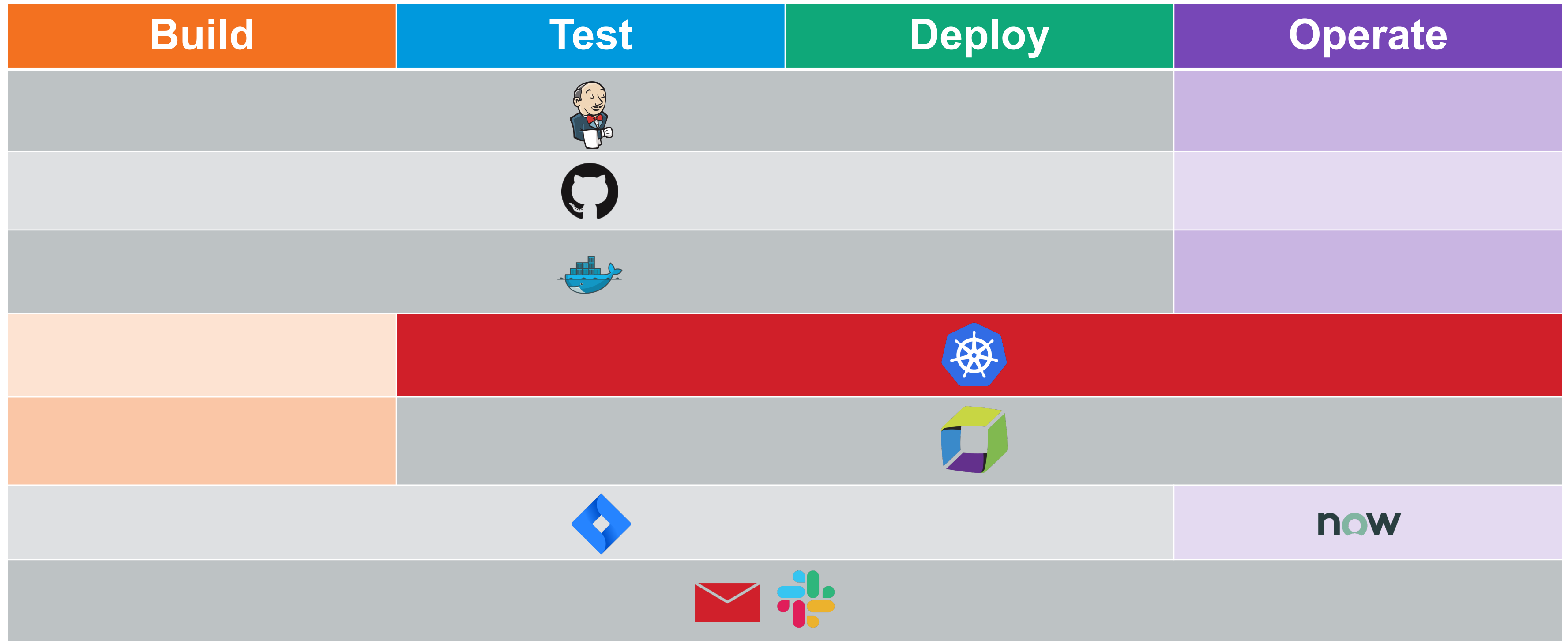


What Container Orchestration Isn't

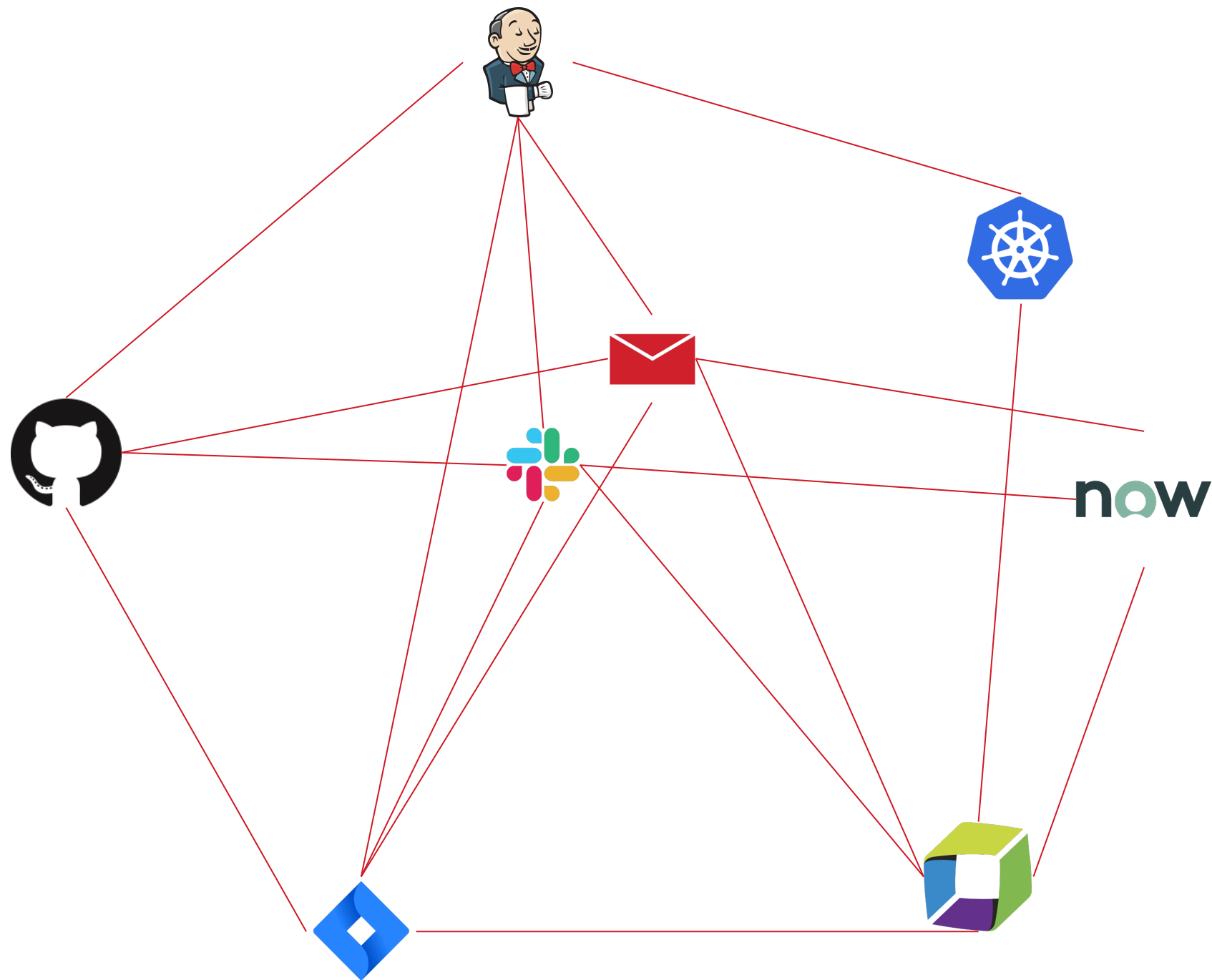
- Observability or APM Platform
- Complete Security Solution
- Storage and Network Manager
- Container Registry
- Configuration Management
- Release Orchestration
- CI/CD Automation
- **Operational Workflow Automation**



Tool Relationship

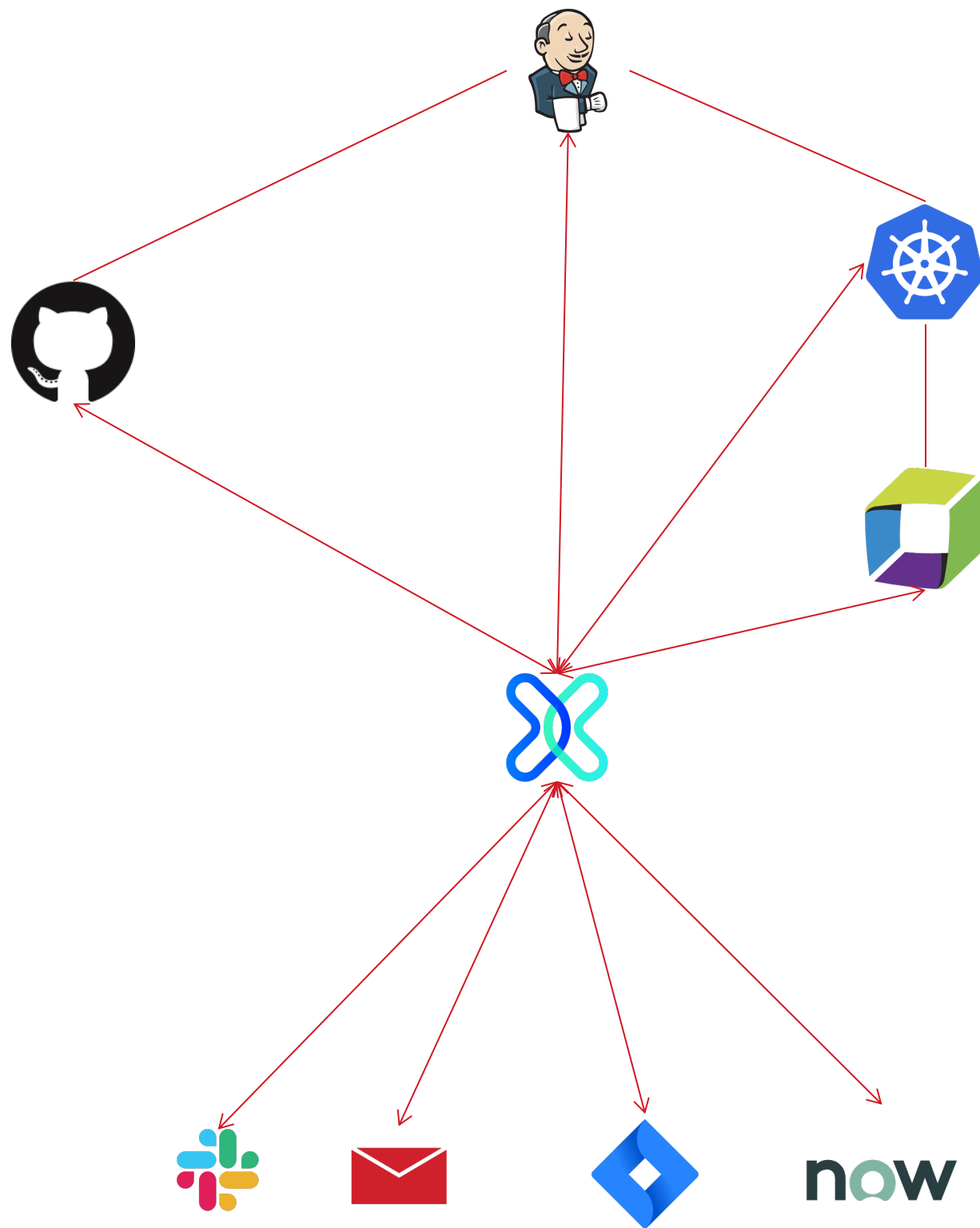


Web of Integration



- **Complex Integration Pattern**
 - + Difficult to maintain and troubleshoot
 - + Information not shared across the tool chain
 - + Complex to add or change tools
- **Decentralized**
 - + Inefficient
 - + Individually managed communications plans
 - + Not easy to modify
- **Varied Functionality**
 - + Doesn't allow for sophisticated actions
 - + Functionality different across integrations
- **Does Not Scale**

Operational Workflow Automation



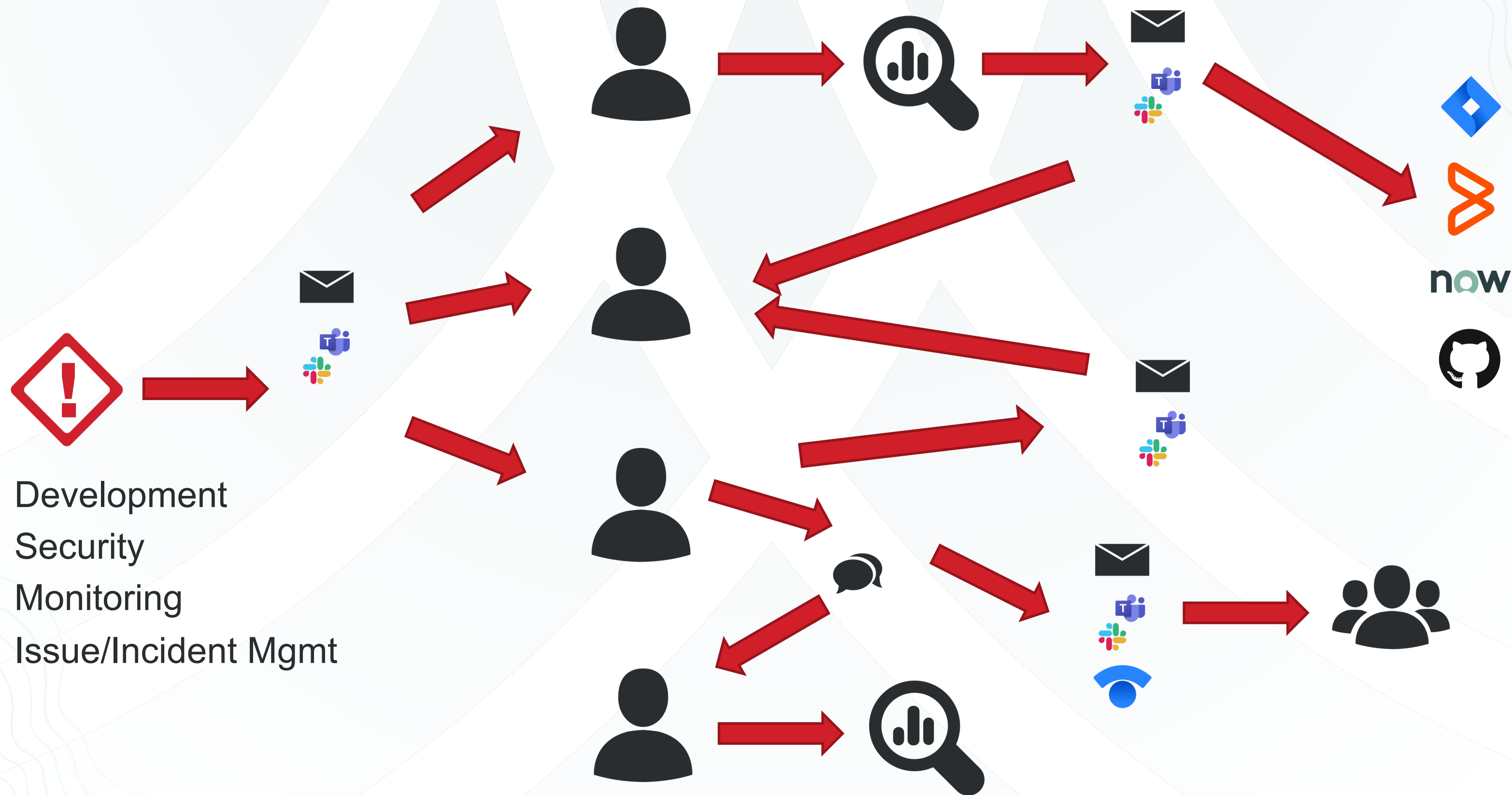
- **Simplified Integration Pattern**
 - + Easier to maintain and troubleshoot
 - + Ability to share information across the tool chain
 - + Less complex to add or change tools
- **Centralized**
 - + Fewer connections to similar resources
 - + Centrally managed communications plans
 - + Easier to modify
- **Enhanced Functionality**
 - + Allows for sophisticated actions
 - + New features
- **Scales Easily**

What is Operational Workflow Automation

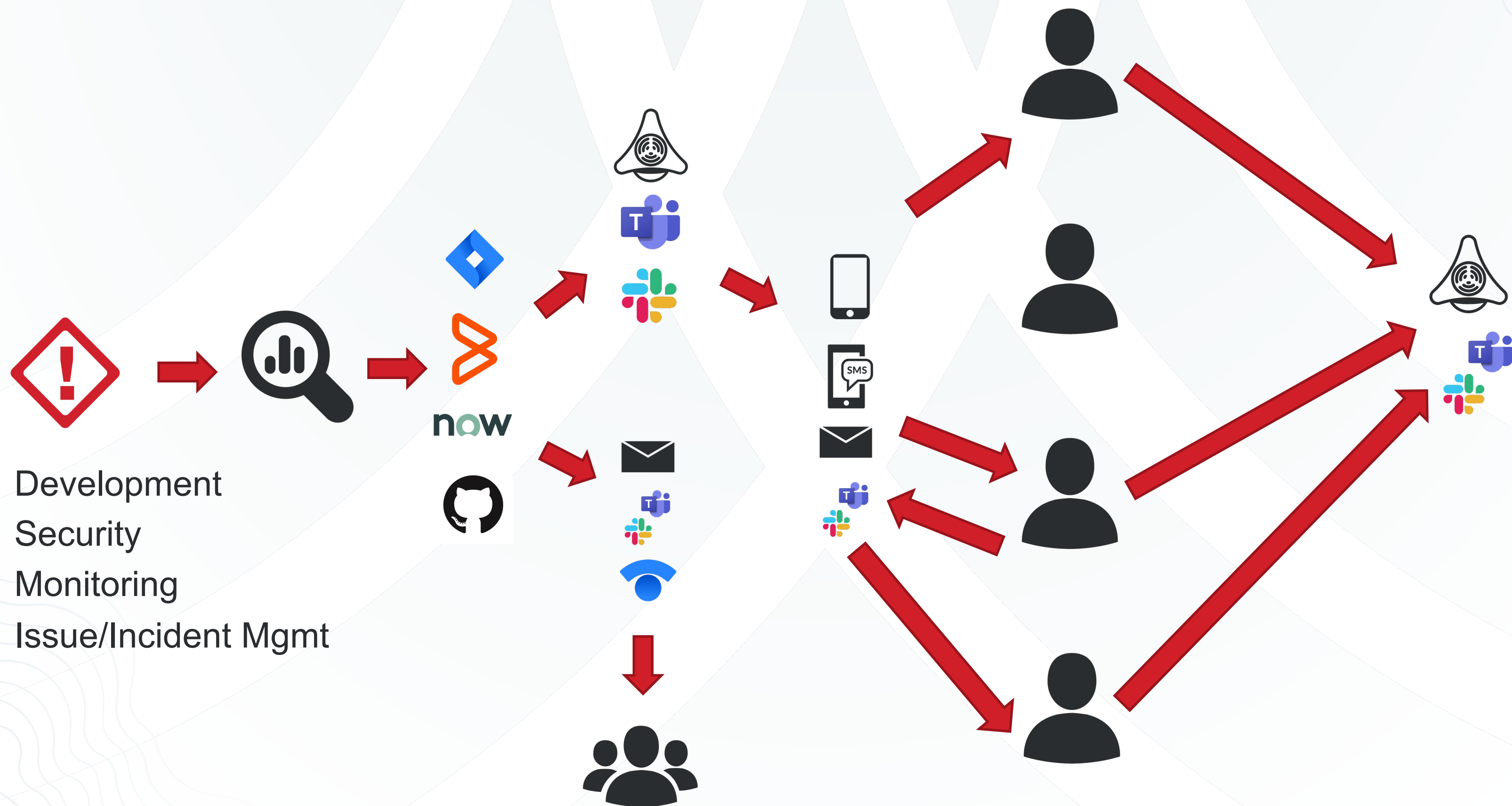
Think of it like Container Orchestration

- Integrates with other tools in operational workflow
 - + Not a replacement for, but integration with Container Orchestration and its ecosystem
- Allow for operational processes at Scale
- Automates operational tasks
 - + Issue/incident processes, status notifications, approvals, etc.
 - + Tasks that interact with people in some way
 - + Automation based off user responses
- Schedule responder resources Efficiently and Effectively
 - + Find the right resource
 - + Schedule responder time
 - + Manage escalations and rotations

Typical Situation



With Operational Workflow Automation



Development
Security
Monitoring
Issue/Incident Mgmt

Key Benefits of Operational Workflow Automation

- Automate manual tasks
 - + Reduces toil
 - + Automation before and after notification
 - + Automation based on responses
- Targeted Notifications
 - + Instills a sense of ownership and responsibility
 - + Reduces MTTR (Mean Time to Respond and Resolve)
- Repeatable Process
 - + Creates familiarity and reduces confusion
- Organized Collaboration
 - + Easily find the people and information needed

Summary

- Operational Workflow Automation is an important part of the Container Orchestration ecosystem
- Using them in conjunction can help lower complexity, reduce toil, and improve operational efficiency

Thank you



Be sure to check out our booth to learn more about how automation can power your business and book a personalized demo with one of our xPerts