The Key to Innovating in a Shifting IT Landscape

Redgate’s 2019 State of Database DevOps Report
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11 year Microsoft Data Platform MVP
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The workforce is evolving
- Teams are increasingly distributed
- Skill shortages are increasing

Customers are driving products
- Expect delivery of value more quickly
- Require you to keep their data safe

Expanding tech landscape
- Estates include modern and legacy components
- Digital transformation drives DevOps

Regulatory Pressures
- Need to stay compliant with legislation
- Must restrict the presence and use of data internally

The Key to Innovating in a Shifting Landscape
The workforce is evolving

- Teams are increasingly distributed
- Skill shortages are increasing
This compounds the risks of silo’d teams for database changes. The top risks are...

- Failed Deployments & Downtime
- Slow dev & release cycles
- Inability to respond to changing requirements
DBAs and Devs with “great” collaboration

All responders: 22%
DevOps Adopters: 41%
What was, or what would be, the main obstacle to implementing a DevOps approach in your organization?

- 22% Lack of appropriate skills in the team
- 21% Disruption to existing workflows/business
- 15% Lack of awareness of benefits to the business
- 15% Lack of alignment between development and operations teams
- 11% Lack of budget to invest in new tooling
- 9% Lack of support from executive leadership
- 8% Other
Database DevOps centralizes the evolving workforce

Adopt a standardized way of working that unifies the team across silos and locations

Prioritize techniques such as Database DevOps which free up time
Database DevOps tools that enable a single team across silos & time zones

- Branching for feature dev & experimentation
- Pull requests for code review*
- Automated builds for database code
- Integration with pipelines and PowerShell
- Release artifacts for review
- Automated deployments for consistency & speed

* Depending on version control system
Customers are driving products

- Expect delivery of value more quickly
- Require you to keep their data safe
Software core to the business “tilts” the playing field in favor of those who use it most effectively.
Teams who deploy database changes more than once a week

2018: 35%  
2019: 40%

Database DevOps is needed to meet customer demand

Automate changes and ability to experiment

Don’t let the database block development
Database DevOps patterns that empower customers to drive features

- Release small changes frequently
- Write backwards compatible changes
- Separate concepts of deployments and releasing
- Use feature flags to enable/disable functionality
- Get visibility into release impact in monitoring
- Change course as needed based on customer feedback
Expanding tech landscape

- Estates include modern and legacy components
- Digital transformation drives DevOps
50% of server estates are now in the cloud

All or mostly cloud based: 19%  
Combo of cloud & on-prem: 31%
Database DevOps simplifies handling complex estates

Unify processes with tools that work across hybrid estates when possible

Automate tool setup across the estate
Unite the expanding landscape with Database DevOps

- Centralizing database code protects it across the estate
- Use the same tools for automation across the estate
- Don’t rush to “fully DevOps” legacy databases all at once
- Monitoring the estate isn’t just for ops anymore: it’s for dev and business users, too
Regulatory Pressures

- Need to stay compliant with legislation
- Must restrict the presence and use of data internally
<table>
<thead>
<tr>
<th>C-Level Executives</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>How threatening are the following factors to the success of your business?</td>
<td></td>
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<tr>
<td>(somewhat/very)</td>
<td></td>
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<tr>
<td>Security / data breach</td>
<td>66%</td>
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<tr>
<td>Increased regulation</td>
<td>62%</td>
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<tr>
<td>Disruption from tech industry</td>
<td>62%</td>
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<tr>
<td>Access to developer talent</td>
<td>61%</td>
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<tr>
<td>Growing competition from China</td>
<td>60%</td>
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</tbody>
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The Developer Coefficient 2018 · Stripe and Harris Poll · https://stripe.com/reports/developer-coefficient-2018
Which of these describe the data in your development and test environments?

*Respondents could give multiple responses to this question*

- The data is a copy of production: 65%
- The sensitive data is masked: 36%
- The data is a subset of the total data: 30%
- The data is manually created: 29%
- The data is generated automatically (synthesized): 18%
### Who's behind the breaches?

- **73%** perpetrated by outsiders
- **28%** involved internal actors
- **2%** involved partners

### What tactics are utilized?

- **48%** of breaches featured hacking
- **30%** included malware
- **17%** of breaches had errors as causal events
- **17%** were social attacks
- **12%** involved privilege misuse
- **11%** of breaches involved physical actions

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2018 Data Breach Investigations Report · Verizon
Compliant Database DevOps is the key to regulatory pressures

Source control and automated deployment provides continuous auditing of database changes

Automated masking of data for development environments supports development tasks while protecting customers and your brand
Compliant Database DevOps techniques

- Mask data when creating images
- Enable fast self-service of clones via GUI & PowerShell
- Automate database cloning for branching & pull requests
- When new columns are added, shift categorization of the data left
The Key to Innovating in a Shifting Landscape
Stop letting the database block development.
Make it drive.

**Database DevOps centralizes the evolving workforce**
- Adopt a standardized way of working that unifies the team across sites and locations
- Prioritize techniques such as Database DevOps which free up time

**Database DevOps is needed to meet customer demand**
- Automate changes and ability to experiment
- Don’t let the database block development

**Database DevOps simplifies handling complex estates**
- Unify processes with tools that work across hybrid estates when possible
- Automate tool setup across the estate

**Compliant Database DevOps is the key to regulatory pressures**
- Source control and automated deployment provides continuous auditing of database changes
- Automated masking of data for development environments supports development tasks while protecting customers and your brand