

Automations Guide

Transforming IT Operations:

The Essential Guide to DEX Automations

riverbed[®]

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Why DEX Teams Need an Automation Strategy

The Growing Complexity of IT Environments

Modern IT environments are becoming increasingly complex, with distributed workforces, hybrid infrastructures, and countless devices accessing enterprise systems. IT teams are under immense pressure to ensure system uptime, maintain security, and minimize user disruption while keeping costs under control. This complexity makes the traditional all manual troubleshooting and resolution process inefficient, prone to errors, and unproductive.

Why Automation is the Key

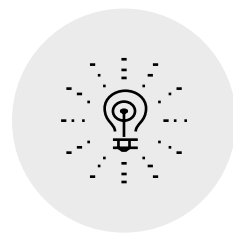
An automation strategy can transform IT operations by eliminating repetitive tasks, reducing manual workload, and ensuring consistency in remediation efforts. Automation minimizes human error, speeds up resolution time, and boosts digital experience across the enterprise.

Categories of Automations



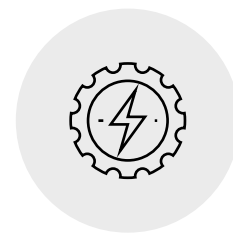
Stabilize

Core automations that every IT team should have in place to ensure employees have a good digital experience and can be productive.



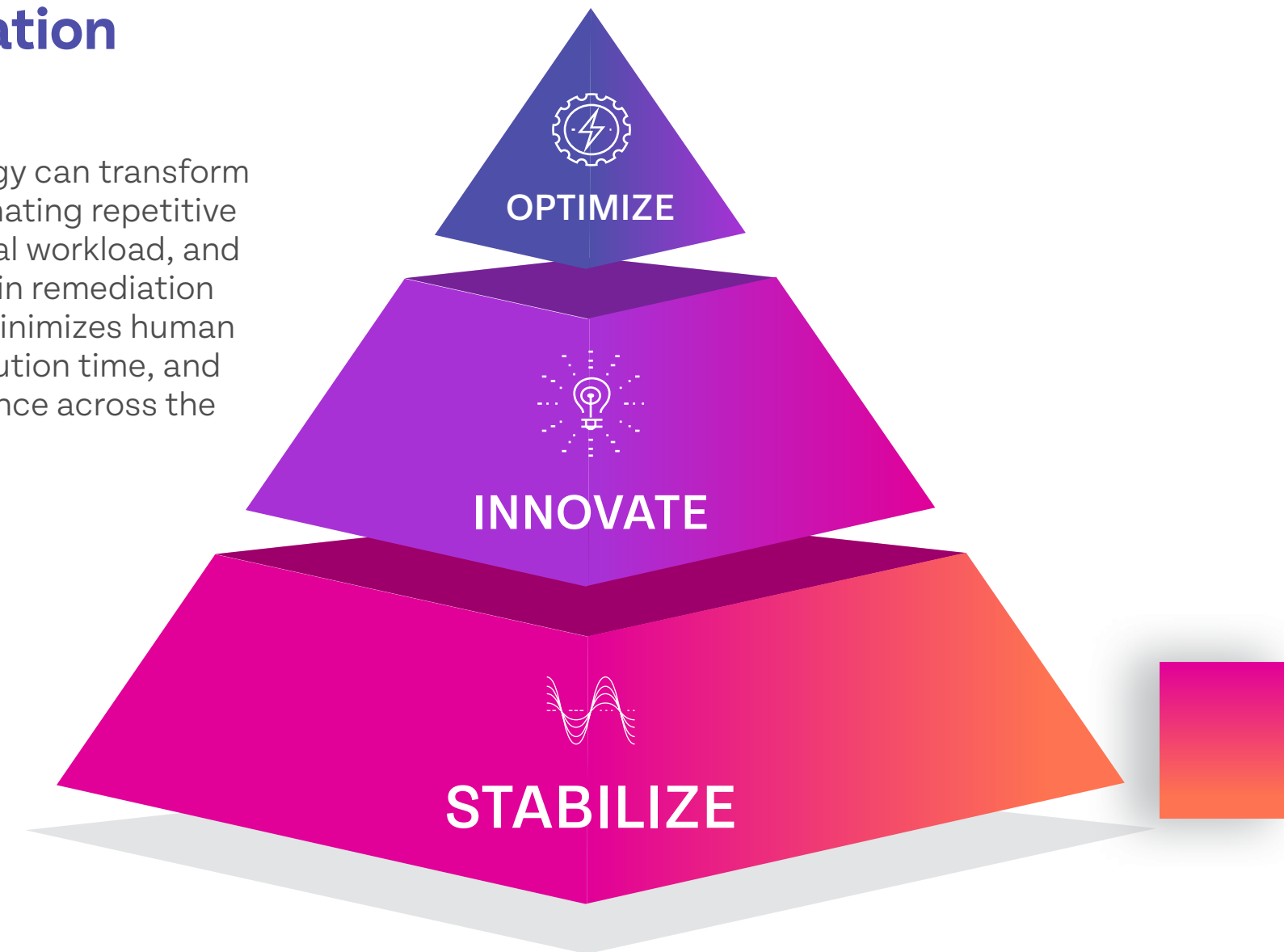
Innovate

Sophisticated automations for experienced teams leveraging AI and predictive capabilities.



Optimize

Advanced automations that drive efficiency and enhance security.



By the end of this guide, you will be equipped with practical recommendations to implement these automations and build a strong business case to demonstrate ROI.



Category 1

Stabilize - Laying Out the Foundation

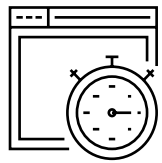


1. Reboot/Restart Automation

Why It Matters

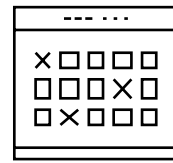
Rebooting devices regularly can resolve memory leaks, apply pending updates, and ensure system stability. However, relying on end users to reboot their devices often leads to inconsistency, leaving endpoints vulnerable and impacting performance.

How to Automate:



Scheduled Reboots

Configure reboot policies using Group Policy Objects (GPOs) or endpoint management platforms to schedule reboots during off-hours or use scripts to send reminder notifications to users before the reboot and to enforce reboot schedules.



Event-Based Reboots

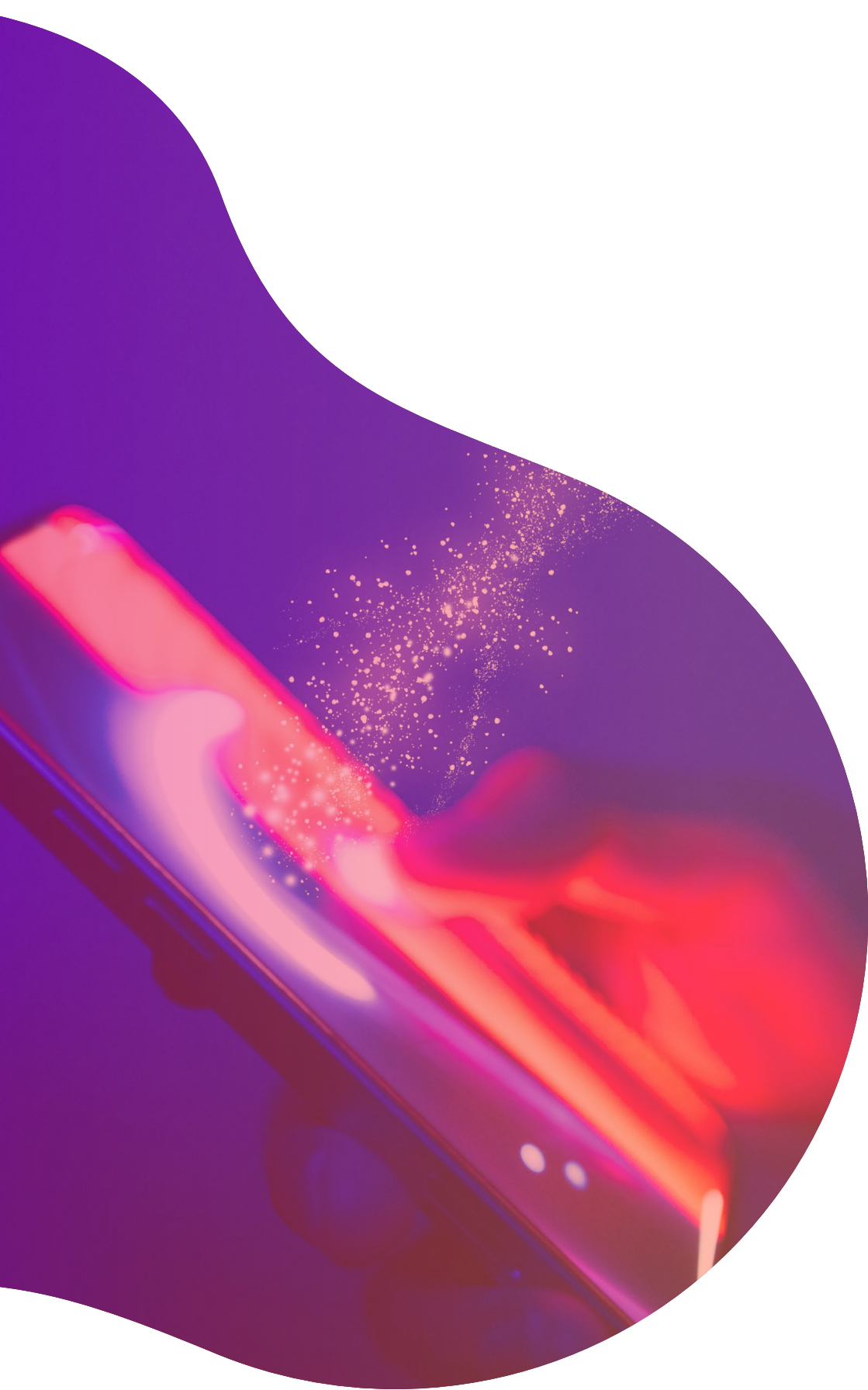
Create event-driven reboots based on system performance thresholds. Use scripts to trigger reboots automatically when memory utilization or CPU usage exceeds a certain limit.



Patch Deployment Integration

Automate reboots as part of the patch management process to ensure updates take effect immediately after installation.





Business Impact

Reduced Downtime

Proactive reboots minimize unexpected system crashes and user disruptions.



Improved Device Health

Consistent reboots help maintain system stability and performance.



Lower Support Costs

Fewer support tickets related to system slowdowns reduce help-desk workload.



How to Measure (KPIs)

Reboot Compliance Rate

Percentage of devices successfully rebooted according to the schedule.



Incident Reduction Rate

Decrease in support tickets related to system slowdowns or crashes.



Mean Time Between Failures (MTBF)

Longer intervals between system failures after automated reboots are enforced.



2. Disk Cleanup Automation

Why It Matters

Disk space issues often lead to system slowdowns and degraded performance. Over time, temp files, logs, and cached data consume valuable storage, increasing the risk of system failure.

How to Automate:



Scheduled Cleanups

Use scripts or task automation tools to schedule disk cleanups at regular intervals. Target temp folders, recycle bins, and log files.



Event-Based Cleanup

Create event-driven disk cleanup based on % or size of free disk space remaining. Other correlated events that impact security and digital experience can be used to trigger automatic disk cleanups.



Storage Policy Enforcement

Deploy policies that trigger automatic cleanup when available disk space falls below a defined threshold.



User-Level Cleanups

Allow users and helpdesks to manually trigger cleanups through self-service portals, while automating background cleanups for consistency.



Business Impact

Improved System Performance

Regular disk cleanups prevent slowdowns and enhance device performance.



Lower Risk of System Failures

Proactive cleanup mitigates risks associated with storage overload.



Reduced IT Workload

Automated cleanups reduce the need for manual disk maintenance.



How to Measure (KPIs)

Storage Utilization Rate

Track the percentage of available disk space across devices.



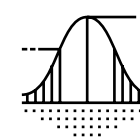
Cleanup Success Rate

Measure the success of scheduled or threshold-based cleanup actions.



Performance Improvement Rate

Monitor system performance improvements post-cleanup.

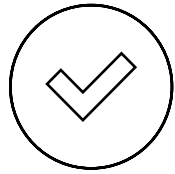


3. File System Integrity and Disk Health

Why It Matters

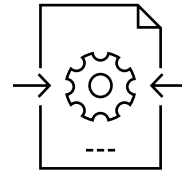
Disk corruption and file system errors can lead to critical data loss and system crashes. Automating disk health checks ensure proactive issue detection.

How to Automate:



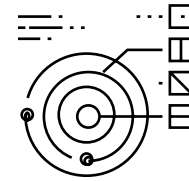
Integrity Checks

Use built-in utilities like chkdsk or scripts to schedule regular disk integrity checks.



Auto-Remediation Policies

Automate disk repair or initiate backup procedures when corruption is detected.



Alerting and Reporting:

Configure alerting to notify IT teams when critical issues are identified.

Business Impact

Reduced Data Loss Risk

Proactive disk monitoring minimizes the likelihood of data loss.



Improved System Stability

Regular integrity checks prevent critical system failures.



Lower Remediation Costs

Early detection reduces costs associated with major failures.



How to Measure (KPIs)

Integrity Check Success Rate

Percentage of successful file system integrity checks.



Failure Detection Rate

Percentage of disk corruption issues detected before failure.



Data Recovery Success Rate

Percentage of data successfully recovered post-repair.



4. Hardware and Driver Management

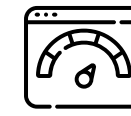
Why It Matters

Outdated drivers and BIOS firmware can create performance bottlenecks and security vulnerabilities. Automating updates prevent these issues.

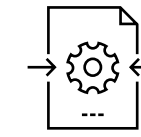
How to Automate:



Driver and BIOS Update Policies
Schedule and enforce regular updates using endpoint management tools.



Hardware Health Monitoring
Continuously monitor device health to detect potential hardware failures.



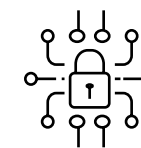
Auto-Remediation of Driver Failures
Automatically roll back or reinstall drivers when failures are detected.

Business Impact

Improved Device Performance
Regular driver updates optimize system performance.



Stronger Security Posture
Timely BIOS and driver updates mitigate security vulnerabilities.



Reduced Downtime and Support Costs
Proactive hardware management minimizes unplanned failures.



How to Measure (KPIs)

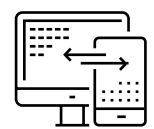
Update Success Rate
Percentage of successful driver and BIOS updates.



Failure Mitigation Rate
Percentage of hardware-related failures mitigated through automated updates.



Device Stability Improvement Rate
Reduction in hardware-related support incidents.

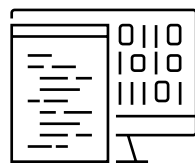


5. System Services Monitoring and Auto-Restart

Why It Matters

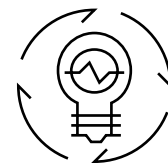
Critical system services such as SCCM, Qualys, or antivirus solutions need to be operational 24/7. When these services stop unexpectedly, it can compromise security, compliance, and system health.

How to Automate:



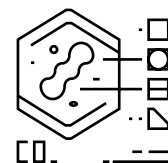
Service Monitoring

Use scripts to monitor the status of critical services. Set up scheduled tasks or use service management tools to check service availability and send alerts when issues arise.



Auto-Restart Policies

Create GPOs or automated scripts that restart failed services immediately.



Event Log Triggers

Monitor event logs to identify service failures and trigger auto-restart procedures when anomalies are detected. Use intelligence to escalate if this is a recurring issue.



Business Impact

Increased Service Uptime

Automation ensures that critical services remain operational with minimal downtime.



Reduced Security Risks

Continuous monitoring and quick remediation minimize exposure to security threats.



Lower Support Costs

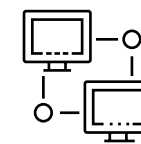
Automatic service recovery reduces the need for manual intervention.



How to Measure (KPIs)

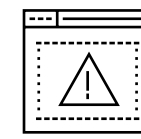
Service Uptime Percentage

Measure the uptime of critical services.



Incident Volume Reduction

Track the reduction in service-related incidents.



Average Time to Service Restoration

Measure how quickly services are restored after failure.

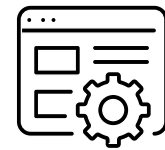


6. Security and Encryption Compliance

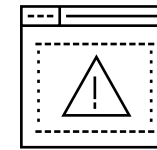
Why It Matters

Ensuring encryption compliance (e.g., BitLocker) across all devices protects sensitive corporate data. Manual enforcement is time-consuming and prone to oversight.

How to Automate:



Encryption Policy Enforcement
Enforce BitLocker or similar encryption policies automatically across all endpoints.



Non-Compliance Detection
Monitor encryption status continuously and trigger automatic remediation for non-compliant devices.



Audit and Reporting
Schedule automated audits to generate compliance reports and identify gaps.

Business Impact

Stronger Data Protection

Encryption compliance minimizes the risk of data breaches.



Enhanced Regulatory Compliance

Continuous policy enforcement ensures adherence to security standards.



Lower Risk of Legal Exposure

Automated compliance reduces potential liabilities associated with data mishandling.



How to Measure (KPIs)

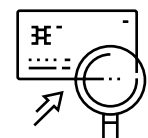
Encryption Compliance Rate

Percentage of devices compliant with encryption policies.



Audit Success Rate

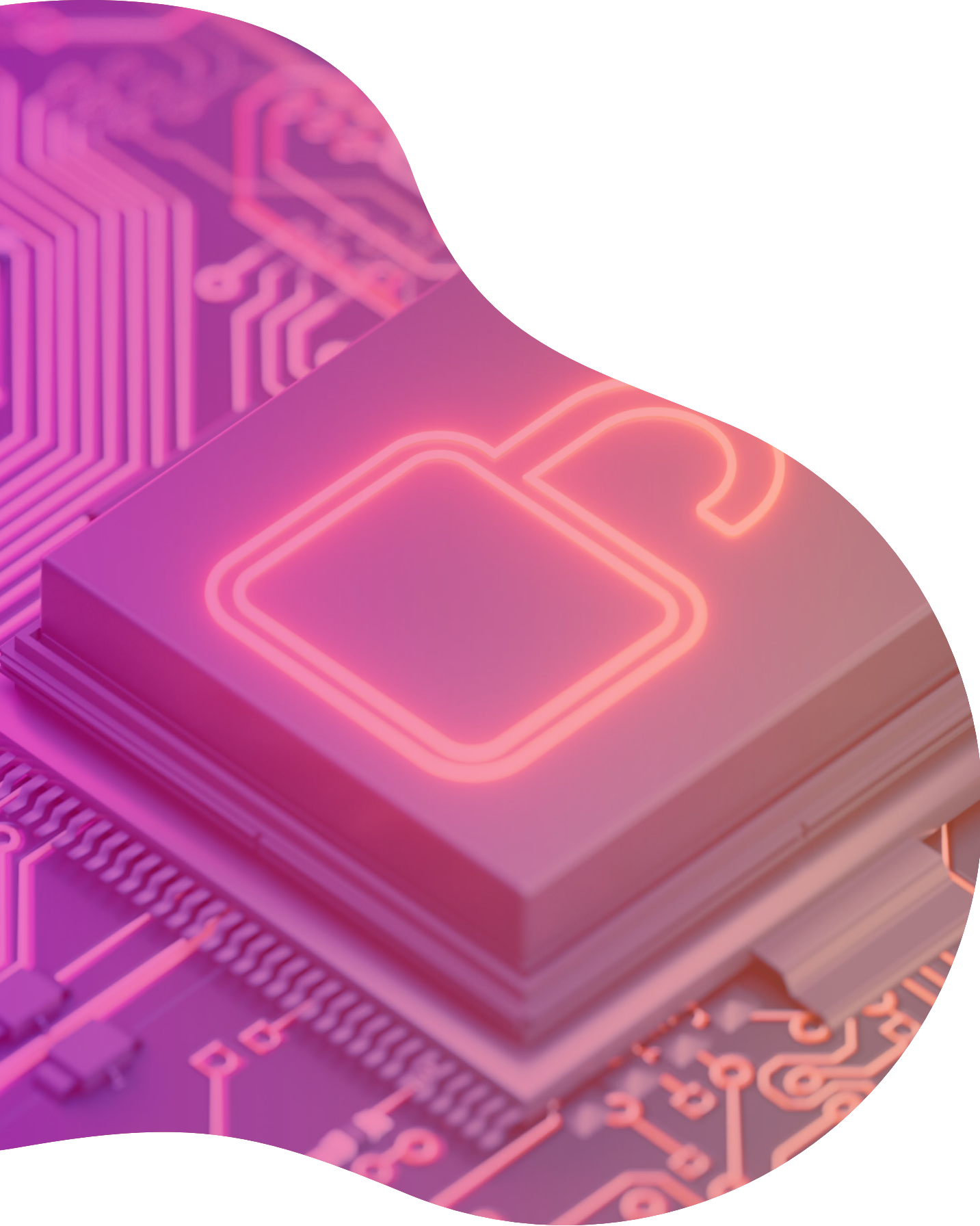
Measure the success of compliance audits.



Incident Reduction Rate:

Decrease in data loss incidents due to enforced encryption.





Category 2

Optimize - Strengthening Security and Efficiency

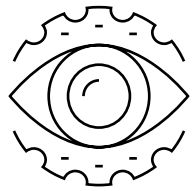


1. Application Remediation

Why It Matters

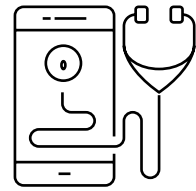
Application crashes (e.g., Microsoft Teams, Chrome) disrupt user productivity and generate a high volume of support tickets. Automating application fixes ensure seamless user experiences.

How to Automate:



Crash Detection

Use endpoint monitoring tools or Windows Event Viewer to detect application crashes. Automate notifications and relaunch processes to minimize user disruption when required.



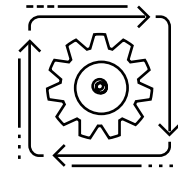
User Impacting Crash Detection

Use intelligence to identify if reported crashes impacted the user's productivity and digital experience.



Application Reset Policies

Create scripts that clear cache, reset app settings or reinstall applications after a crash.



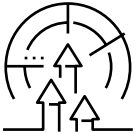
Error Handling Automation

Configure automated workflows that address application errors by referencing known issue libraries.

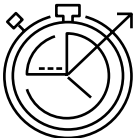


Business Impact

Higher User Productivity
Reduced application crashes minimize work disruptions.



Faster Issue Resolution
Automated application fixes decrease resolution time.



Lower Support Ticket Volume
Fewer application-related incidents lighten the support team's workload.

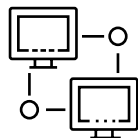


How to Measure (KPIs)

Crash Resolution Rate
Track the percentage of application crashes resolved automatically.



User Downtime Reduction
Measure reduction in user downtime due to application errors.



Support Ticket Volume
Monitor the decline in application-related support tickets.



2. Network and Wi-Fi Remediation

Why It Matters

Network connectivity issues, especially in remote work environments, can disrupt productivity and frustrate users. Automating network diagnostics and switching reduces downtime.

How to Automate:



Connectivity Monitoring

Use network monitoring tools to track signal strength, latency, and connection drops. Automate alerts and failover processes when thresholds are breached.



Auto-Switch Policies

Create policies to automatically switch to stronger Wi-Fi networks or reconnect to VPNs as needed.



Remote Diagnostics and Self-Healing

Implement remote diagnostic workflows that identify and remediate connectivity issues.

Business Impact

Improved Network Availability

Faster detection and remediation reduce downtime.



Enhanced Remote Work Experience

Reliable connectivity ensures productivity for remote employees.



Lower Support Costs

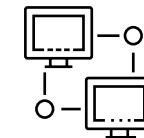
Fewer network-related tickets decrease the IT team's workload.



How to Measure (KPIs)

Connectivity Uptime Rate

Percentage of time users experience stable network connections.



Incident Volume Reduction

Decrease in network-related support tickets.



User Satisfaction Scores

Measure improvements in user satisfaction due to fewer connectivity issues.

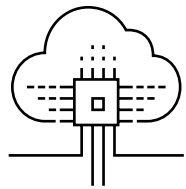


3. Software Patch and Compliance

Why It Matters

Outdated systems are vulnerable to security breaches and performance issues. Ensuring that all devices are updated with the latest patches is a critical part of maintaining security and compliance.

How to Automate:



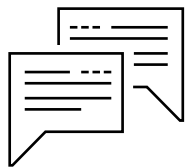
Patch Deployment Policies

Configure automatic update policies via your endpoint management system (Microsoft Intune etc.). Set compliance deadlines to enforce patch deployment.



Compliance Monitoring

Use endpoint monitoring to validate endpoint management agent is up to date and functioning as expected. Invoke driver update based on event-driven alerts. Track patch compliance and trigger automatic remediation for non-compliant devices. Identify, report, and remove shadow IT.



User Notification and Deferral Options

Provide end-users with flexibility to defer updates while enforcing update deadlines for high-risk patches.

Business Impact

Improved Security Posture

Automated updates reduce vulnerabilities and enhance endpoint security.



Regulatory Compliance

Consistent patching ensures compliance with industry standards.



Reduced IT Workload

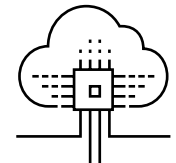
Automating patch management reduces manual administrative tasks.



How to Measure (KPIs)

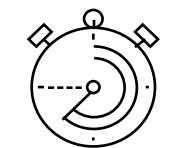
Patch Compliance Rate

Percentage of endpoints that have applied the latest security patches.



Vulnerability Reduction Rate

Decrease in vulnerabilities across the environment.



Update Success Rate

Percentage of successful patch deployments without errors.



4. Outdated Group Policy Updates

Why It Matters

Group Policy updates are crucial for maintaining an organization's security, ensuring compliance, and standardizing configurations across a network, and have a direct impact on user productivity.

How to Automate:



Built-in or 3rd Party Tools

Configure Group Policy Updates using the built-in MS Tools or Third-party tools.



Compliance Monitoring

Use endpoint monitoring to verify if the Group Policy update is overdue and trigger a forced update to resolve.

Business Impact

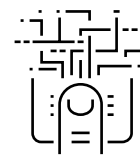
Increased efficiency

Manual, repetitive GPO tasks can be time-consuming and error prone. Automation saves administrative time and effort.



Enhanced security

Consistent, automated enforcement of security settings helps minimize the attack surface by ensuring that all devices and users adhere to the latest policies.



Improved consistency

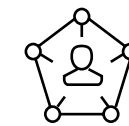
Automation eliminates human error in policy configuration, ensuring that the intended settings are uniformly applied to all target systems.



How to Measure (KPIs)

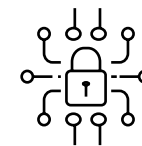
Manual effort reduction

Calculate the number of IT staff hours reclaimed by automating repetitive Group Policy management tasks.



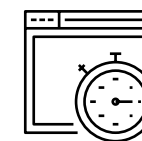
Security incident reduction

Measure the decrease in security incidents caused by configuration errors or inconsistent policy enforcement.



Support ticket reduction

Track the number of help desk tickets related to configuration issues or access problems. Automation should lead to a reduction in these tickets.

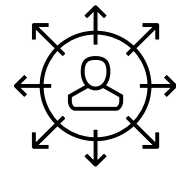


5. User Profile Remediation

Why It Matters

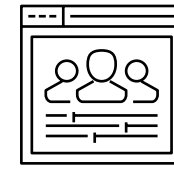
Corrupted user profiles can disrupt personalized settings and hinder user experiences. Automating profile repairs or migration enhances system stability.

How to Automate:



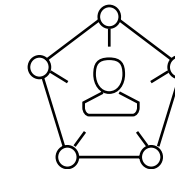
Profile Monitoring

Monitor user profiles for corruption or inconsistencies.



Automated Profile Reset

Deploy scripts to reset profiles or migrate user settings automatically.



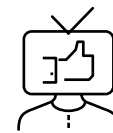
Self-Service Options

Provide users with options to trigger profile resets when issues arise.

Business Impact

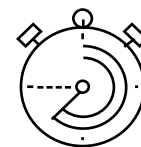
Enhanced User Experience

Automated profile fixes minimize user frustration.



Reduced Downtime

Faster profile remediation ensures users can resume work quickly.



Lower IT Workload

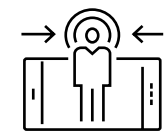
Automation decreases manual profile recovery efforts.



How to Measure (KPIs)

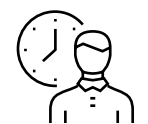
Profile Issue Resolution Rate

Percentage of corrupted profiles successfully remediated.



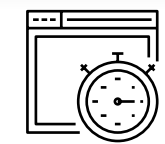
User Downtime Reduction

Measure reduction in user downtime caused by profile issues.



Support Ticket Volume

Decrease in profile-related support escalations.





Category 3

Innovate – Game-Changing Automations for High-Performing IT Teams



1. Self Service Troubleshooting & Resolution

Why It Matters

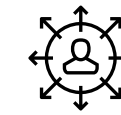
This approach improves end user satisfaction and productivity, reduces incident ticket volume, while reducing the workload for escalation teams.

How to Automate:



Chatbots and AI Virtual Assistants

Use automated conversational agents that provide instant answers and guide users through troubleshooting steps combined with a robust AIOps platform that includes intelligent workflow/runbook technology allowing for behind-the-scenes input, processing, corrective actions, responses to the conversational agents.



Self-Service Portals

Integrated online platforms where customers can access a variety of self-service tools, manage their accounts, and track orders.

Business Impact

Customer Empowerment

Gives customers control over their support experience, fostering satisfaction and loyalty.

Faster Resolution

Enables customers to get instant answers and solutions without waiting for a live agent.

24/7 Accessibility

Provides support and information around the clock, regardless of business hours.

Reduced Support Costs

Frees up human support agents to handle more complex or unique issues.

How to Measure (KPIs)

Self-Service Resolution Rate

The percentage of customer issues successfully resolved using only self-service tools, without requiring human support.

Customer Effort Score (CES)

This measures the amount of effort a customer has to put in to find a solution or get their issue resolved using the self-service options.

Self-Service Fulfillment Speed

The average time it takes to complete a self-service transaction from start to finish. A successful self-service option should be faster than contacting a human agent.

Repeated Contact Rate

This measures how often customers contact support again for the same issue after attempting to resolve it through self-service. A high rate indicates ineffective self-service solutions.

Cost Per Resolution (Self-Service Components)

While not exclusively a self-service KPI, tracking the cost associated with self-service interactions helps determine the overall efficiency and cost savings of these channels compared to human support.

Customer Satisfaction (CSAT) (Self-Service Context)

While a general customer service metric, it's crucial to segment CSAT scores for users who solely used self-service to understand the satisfaction level with the self-service experience itself.

2. Integrate Technologies in the Automation Process

Why It Matters

Integrating technologies is critical to the success of an automation initiative because it creates a unified collection of data from multiple investments (sources) where noise is eliminated and processes can flow seamlessly for consumption across an organization. Integrated automation provides a deeper level of efficiency, accuracy, and agility than isolated automation can offer, unlocking new strategic opportunities and a faster return on investment (ROI).

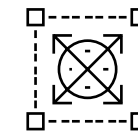
How to Automate:

AIOps Platform: Use a robust AIOps platform that includes intelligent workflow/runbook technology allowing for continuous open data collection, intelligent decision processing, formatting, and output to and from multiple sources. Preferably provides simple out of the box connectors to the most common IT technology investments including ITSM, Messaging, Chat-bot, Business Intelligence, Monitoring tools, and others. Look for a no-to-low-code solution to accelerate the implementation and successful ROI of an automation practice.

Business Impact

Enhanced Scalability and Agility

Allows businesses to scale operations more effectively and adapt quickly to changing demands.



Better Data & Insights

Creates a comprehensive view of data across different systems, enabling more informed decision-making.



Reduced Costs

Diverts resources from manual tasks to more strategic areas, leading to optimized performance.



Improved Accuracy

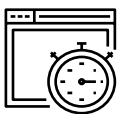
Minimizes errors associated with manual processes.



How to Measure (KPIs)

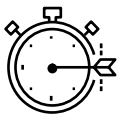
Quality and Error Reduction

Track the reduction of errors and improvements in product or service quality.



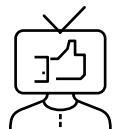
Time and Cost Savings

Calculate the time saved and the reduction in operational costs.



Customer Satisfaction

Monitor improvements in customer experience or service delivery.



2. DEX Score Continuous Improvement via Agentic AI

Why It Matters

The DEX Score enables IT departments to identify issues, measure the effectiveness of improvements, and create a more efficient, supportive, and satisfying work environment, ultimately contributing to overall business success. Automating the identification, reporting, and resolution of issues that negatively impact the DEX Score, ensure the Enterprise goals are continually in focus.

How to Automate:

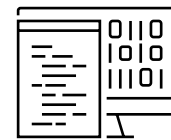
Combine Data Feeds, AI, & Automation

Provide streaming metrics along with event-driven data via intelligent automation in a reoccurring fashion that feeds into AI. Use Automation to execute the AI recommendations while measuring the DEX score improvement.

Business Impact

Drives Productivity

A poor digital experience creates friction, causing delays and errors that reduce efficiency. A high DEX Score indicates a smooth digital environment where employees can focus on their work, leading to better productivity and higher employee satisfaction leading to employee retention.



Fosters Continuous Improvement

By tracking the DEX Score over time, organizations can measure the impact of their improvement initiatives. This creates a continuous feedback loop, allowing for ongoing optimization of the digital employee experience.



Offers a Competitive Edge

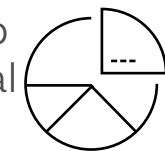
Companies that prioritize and effectively manage their DEX will gain a competitive advantage, as a thriving workforce is more innovative and successful.



How to Measure (KPIs)

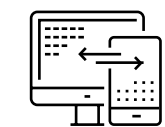
DEX Score

The DEX score itself is the best KPI to be measured over time. This score can be broken down by the enterprise's business units, locations, etc. along with the individual components that make up the overall score providing additional individual KPIs to measure.

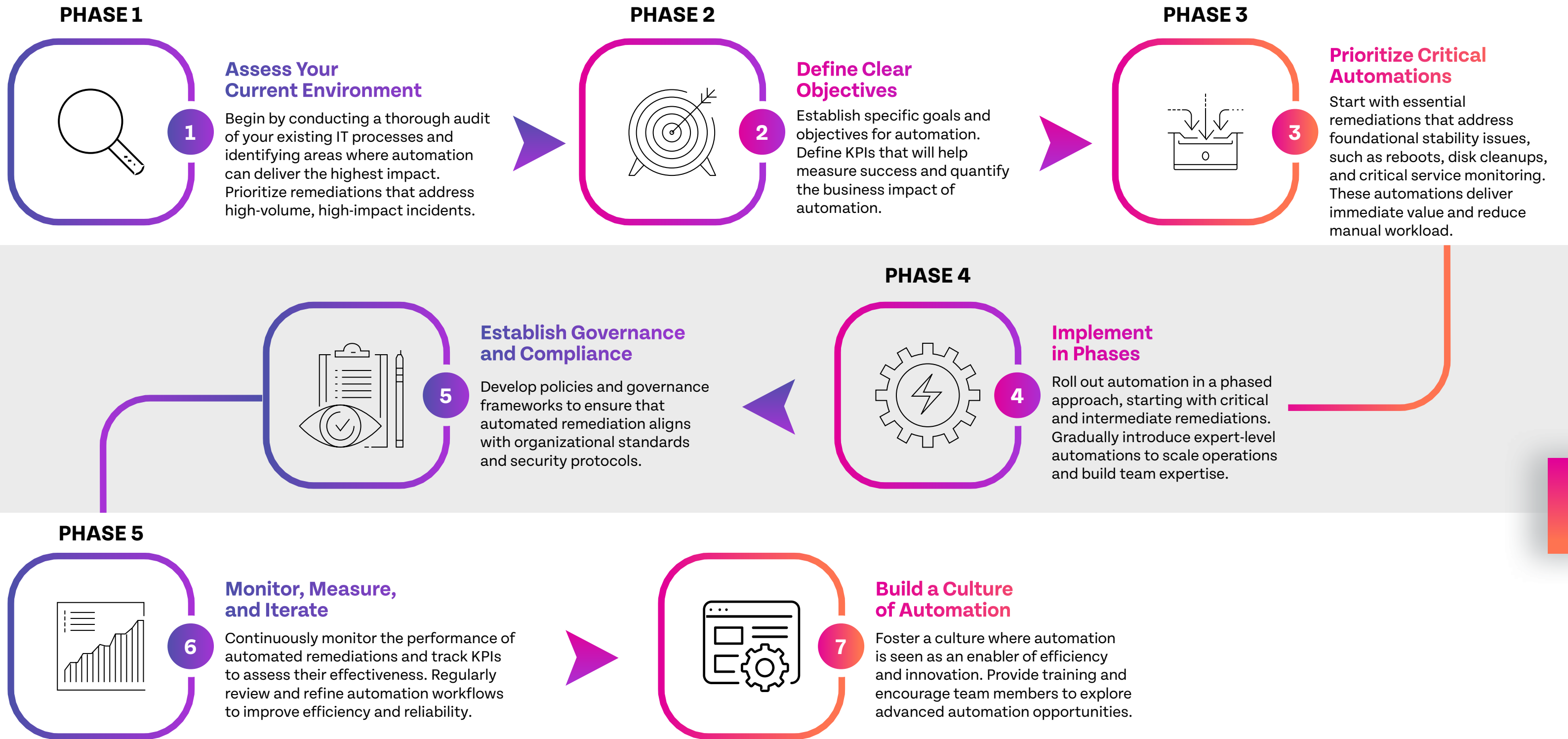


Support Ticket Volume

Measure the reduction in device, network, and application related support escalations.



Best Practices for Getting Started





Moving Toward a Self-Healing IT Environment

A robust automation strategy empowers IT teams to proactively address system issues, reduce manual workload, and enhance security. By implementing essential, intermediate, and expert automations, organizations can transition toward a self-healing IT environment where issues are resolved before they impact end users.

Ready to Explore the Power of Automation?

Visit us at riverbed.com to see how you can unlock the full potential of automation and drive measurable business value.

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Riverbed – Empower the Experience

Riverbed is the only company with the collective richness of telemetry from network to app to end user that illuminates and then accelerates every interaction so that users get the flawless digital experience they expect across the entire digital ecosystem. Riverbed provides two industry-leading solutions: the Riverbed Unified Observability portfolio, which integrates data, insights, and actions across IT to enable customers to deliver seamless digital experiences; and Riverbed Acceleration, which offers fast, agile, and secure acceleration of any application over any network to users, whether they are mobile, remote, or on-premises. Together with our thousands of partners, and market-leading customers across the world, we empower every click, every digital experience. Learn more at riverbed.com.

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