gluware®

The ROI of Intelligent Network Automation

Real-world challenges and success stories

White Paper

Background

Networks are increasingly complex

Enterprise networks are increasingly more complex to manage and the challenge of preventing network outages is increasingly demanding as well. At the same time, the ability to eliminate manual errors, enforce policy standards and centrally manage disparate network devices is paramount to organizational security, business agility and the bottom line. The good news is that, thanks to intent-based automation, it is no longer necessary to make tradeoffs to achieve responsible network and budget management.

Intent-based network automation gives IT the control and cost savings they need to enable code-free automation and orchestration at scale including network discovery, drift detection, OS upgrades, network audits, configuration management, use-case defined workflows, and more. Network automation can deliver the cost savings through outage reduction, legacy NCCM maintenance reduction and new build / NetOps efficiency. Gluware customers typically realize savings such as $16M NPV generated over five years and a 6-month ROI and $400% IRR on their initial capital requests.

This white paper focuses on the journey from cost barriers to financial benefits realized through successful intelligent network automation with Gluware. It includes:

- **Key Barriers to achieving network ROI**
- **Customer success stories**
  - **Mastercard**
  - **Merck**
  - **Terracon**
  - **Acuity Insurance**
  - **First Bank**
- **Discovering the Hidden Value in your Network**

We hope you enjoy learning about the ROI of network automation and will reach out to one of our Network Automation Specialists soon at **sales@gluware.com**.

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Key barriers to achieving network ROI

These key barriers are keeping organizations from seeing a return on their investment into network management today:

1 Build vs. buy

Unless network automation is core to your business, you are most likely evaluating the cost and benefits of building your own network automation versus leveraging a COTS (commercial off the shelf software) solution. Many organizations underestimate the complexity of implementing network automation, especially the routine maintenance and upkeep of manual automation, such as scripting. COTS solutions, with intelligence built in, allow for rapid adoption of automation at scale with significant and immediate operational cost savings.

Learn more *about how network automation enhances time to value for today's top network management use cases.*

2 Network technical debt

Network technical debt increases the cost of maintaining and operating the enterprise network due to the accumulation of factors including aging devices, old operating systems, unnecessary or partial configurations, and variances in deployments. Zombie devices, abandoned projects, aging technology and configuration complexity are a few of the key contributors of network technical debt. As productivity decreases, the organization pays the price—like a tax debt that is unavoidable and growing.

Learn more *about technical debt and how to eliminate in your network in this blog post by Terry Slattery, CCIE #1026 and Principal Architect, NetCraftsmen.*

3 Team skill sets

In most cases, network engineers are not software developers and vice versa. Many organizations attempt to reskill their networking team to achieve automation, which extends the time to value for automation initiatives. Automation allows network engineers to adopt new network management capabilities without extensive re-education. To ensure agility, organizations need to avoid the years of training and experience that are required to build software development skills. Intelligent network automation solutions make this happen by using the configuration syntax that engineers already know, allowing them to get quickly and directly involved in automating their network.

Learn more *about team skill sets and network automation especially during the pandemic in this Light Reading podcast with Gluware VP of Product Marketing, Mike Haugh.*

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4 Organizational culture

In addition to paying for aging devices and systems, organizations continue to pay for out-of-date organizational planning and cultural beliefs that no longer make the grade for managing today's complex, mission-critical networks. To move past these barriers, organizations must be willing to re-think not only network design and planning activities but also how to overcome cultural barriers that prevent progress toward efficiency and effectiveness.

> **Learn more** *about the challenges of out-of-date thinking and how overcome it in this report on Enterprise Network Automation for 2020 and Beyond.*

5 Outdated tools

Given trends like pervasive digitization, remote work and moving to the cloud, manual or scripted network management solutions no longer work at the speed of change. According to Lee Doyle, Principal Analyst at *Doyle Research, "Human error through manual configuration accounts for significant network downtime. The* vast majority of network changes are still manual and these manual processes present significant risk in terms of network outages and security vulnerabilities…. Network automation can be an elusive goal given current management tools and legacy scripting."

> **Learn more** *about the challenges of out-of-date network management solutions download this article by Lee Doyle, Doyle Research, on network transformation through automation.*

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Success Story
Mastercard

Large Finance Company: **Mastercard**

ONUG Spring 2019, Mastercard VP of Operations, James Radford, presented **Automating the Mastercard Network to Increase Security and Agility** with Gluware CEO, Jeff Gray, in the keynote presentation. These slides from the presentation summarize their network automation initiative goals and results using Gluware Intelligent Network Automation.

Watch the keynote presentation

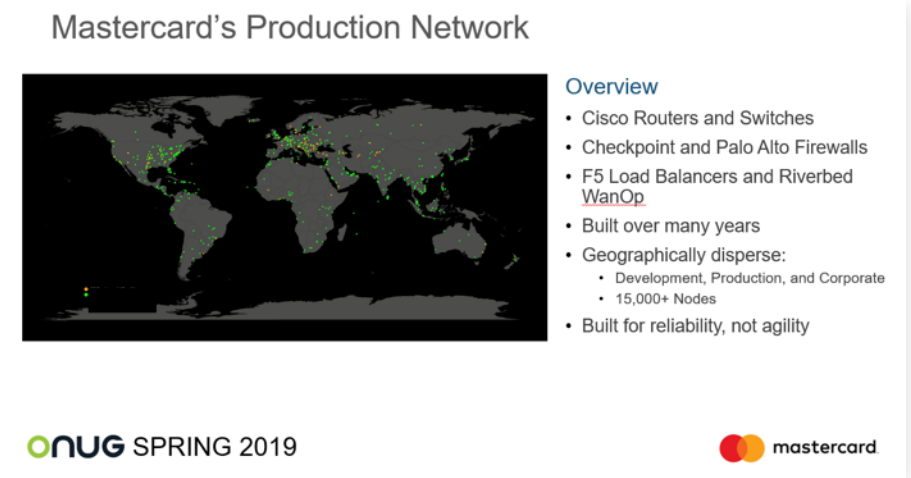

Figure 1 *Mastercard's Production Network*

Figure 2 *Goals for Moving Mastercard to Greater Network Security and Agility*

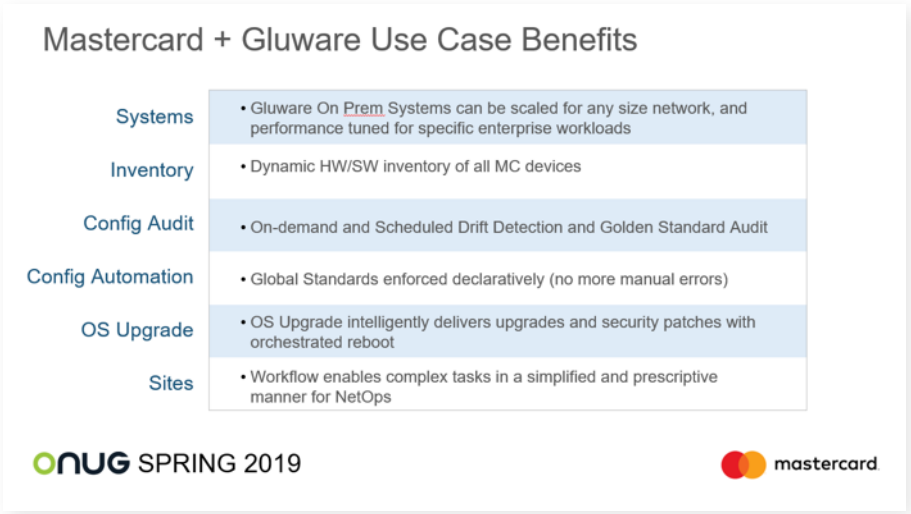

Figure 3 *Mastercard + Gluware Use Case Benefits*

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Mastercard Initiative Results

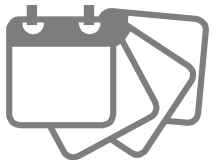
Agility

Ability to implement

of global changes within 24 hours

Enhanced Security

Implement quarterly patching immediately



with a goal of implementing a monthly patching cycle

Defect Rate

0% defect rate for change implementations

Reduce Configuration Drift

Global configuration consistency **99.9%**

Gluware helped to unlock critical business challenges facing our current brownfield architecture faster and with higher resolution we implemented was fully integrated in 16 weeks – an achievement that might have previously taken years.

–James Radford VP of Operations, Mastercard

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Success Story
Terracon

Mid-Size Engineering Company: **Terracon**

U.S-based 5,000-person engineering firm operating in all 50 states, Terracon, grows through acquisition, adding and changing operations and locations with regularity. The challenges they already faced, including operating complex, mission-critical networks remotely and performing 95% of its network changes manually, grew drastically during the COVID-19 pandemic.

In 2020, Terracon presented a keynote at ONUG Digital Live! about their network automation journey with Gluware.

Watch the keynote presentation

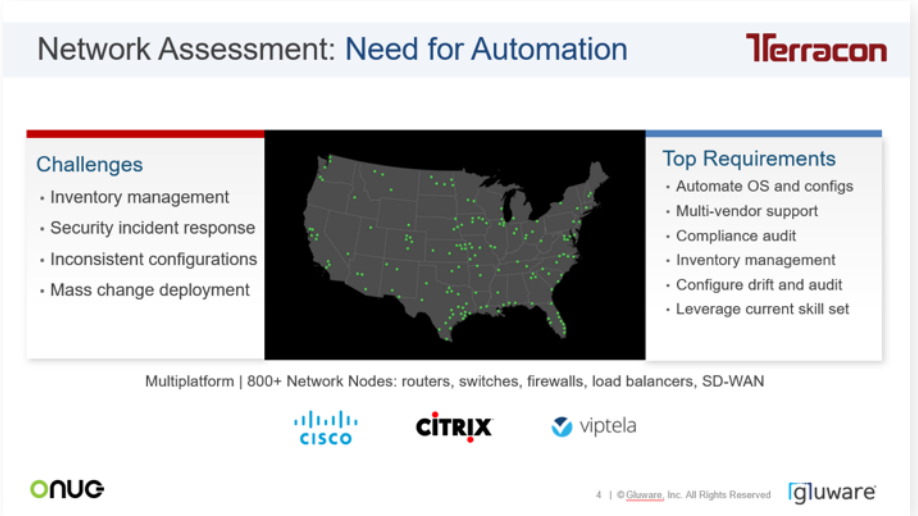

Figure 7 *Network Assessment: Need for Automation*

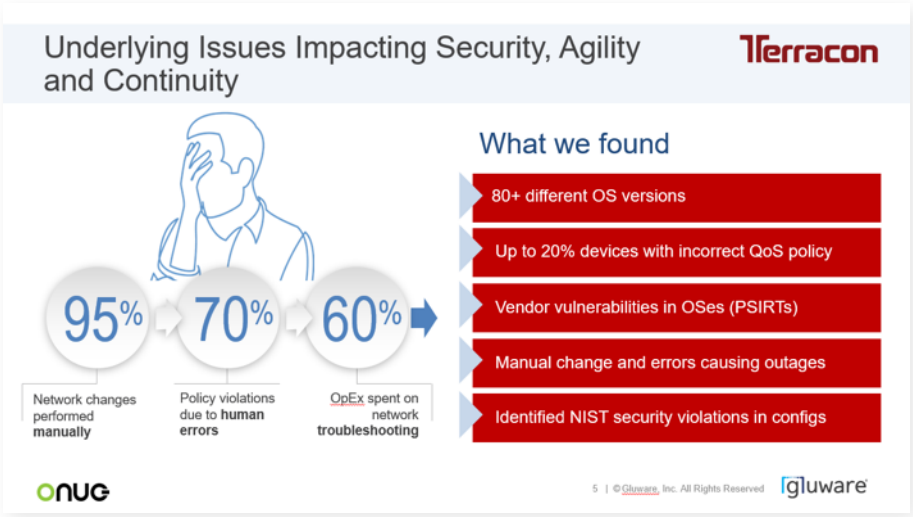

Figure 8 *Underlying Issues Impacting Security, Agility and Continuity*

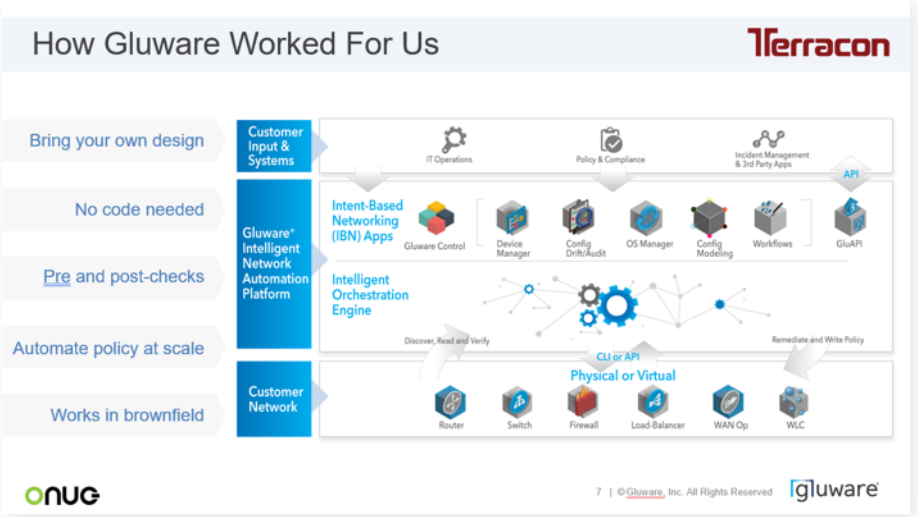

Figure 9 *How Gluware Worked For Us*

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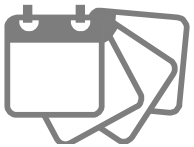
Terracon Initiative Results

Security

Easily Implement patching



on-demand or on schedule

Agility

98% Reduction in time for global network configuration changes

Efficiency

40% reduction in time needed per change

Insights

Increased understanding of where to spend time

Business Continuity

Reduced impact during pandemic

Defect Rate

90% less time spent on troubleshooting

We've been able to automate configurations, management and continual OS upgrades for all of our network equipment across all of our sites, saving valuable time and resources, reducing costs and helping us be far more agile.

–Patrick Holman Infrastructure Director, Terracon

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Success Story
Acuity Insurance

Mid-Size Insurance Company: **Acuity Insurance**

Acuity Insurance is a Wisconsin-based A+ rated personal and commercial insurance firm with over 1,400 employees and 100 locations. They employ 250+ developers who write their own insurance, web and mobile applications. They built out a new data center infrastructure using Juniper QFX series switches for the spine and leaf nodes and use various Juniper MX, EX and SRX devices in their network. An EVPN-VXLAN overlay provided resiliency needed in network design, allowed service chaining and provided flexibility to scale out as their data centers grew. The trade-off, however, was a complex configuration in the spines that requires close attention to detail during configuration. Thanks to Gluware, they were able to eliminate costly manual errors and reduce damaging network outages, keeping their network healthy and predictable.

Watch the keynote video

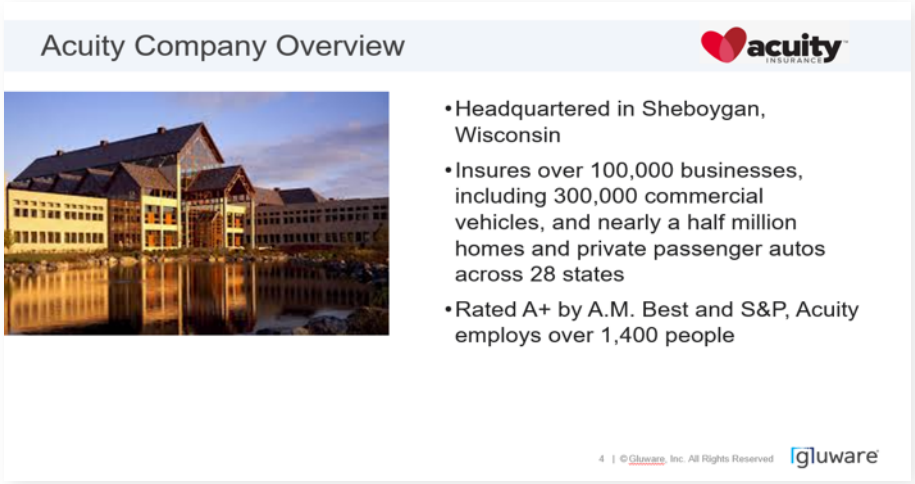

Figure 10 *Acuity Company Overview*

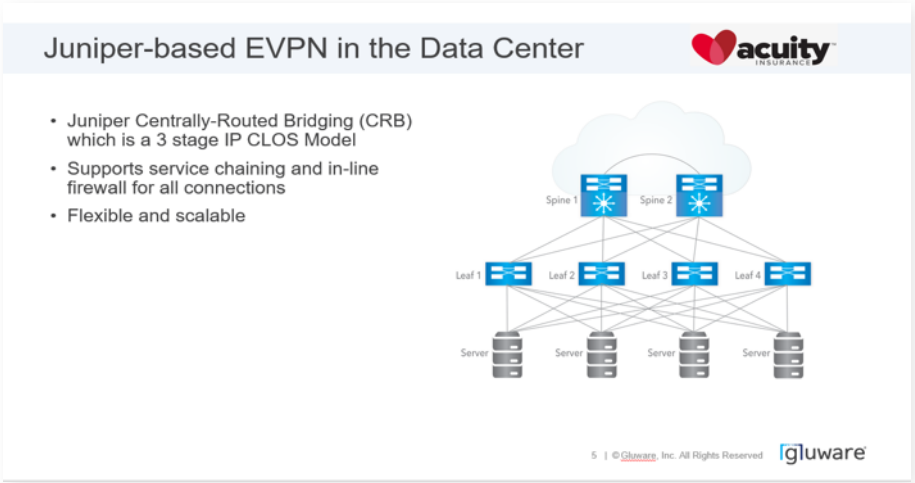

Figure11 *Juniper-based EVPN in the Data Center*

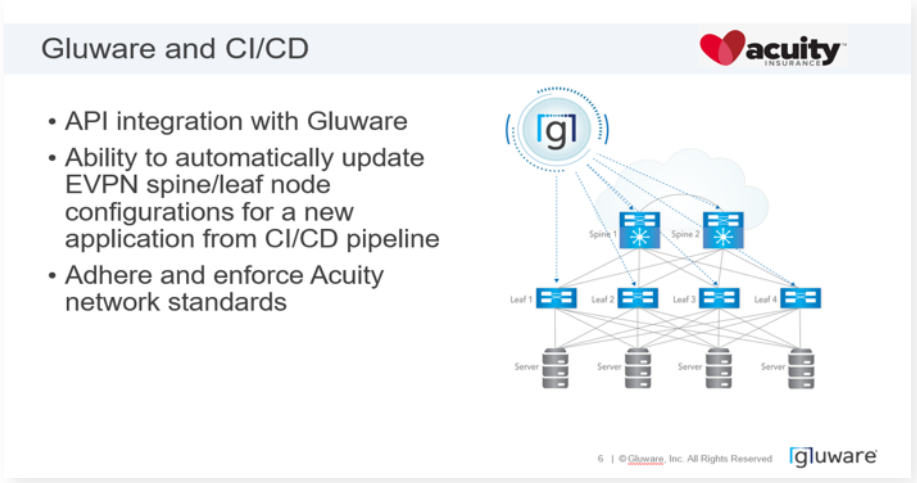

Figure 12 *Gluware and CI/CD*

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Acuity Insurance Initiative Results

Error-free

Eliminated manual errors and one-off configurations

Predictability

Automating configurations keeping the network consistent and predictable

Efficiency

Greatly **reduced network build times** with more time to focus on network efficiency and future-proofing

Network Health

Keeping the network healthy, predictable and flexible

Network Security

Reduced network outages due to misconfigurations

The biggest thing about Gluware it's an adaptable platform. Gluware delivered what we needed, how we needed it, and worked directly with us.

–Chris DiPaola Senior Systems Engineer – Network, Acuity Insurance

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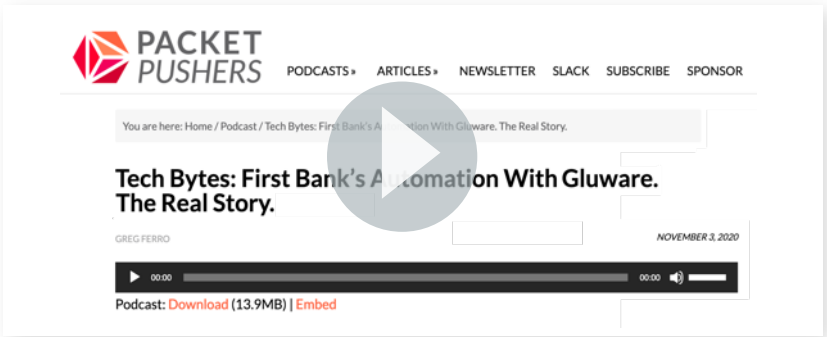
Success Story
First Bank

Mid-Size Finance Company: **First Bank**

First Bank is a family-owned, privately-held bank with 100+ locations in 5 different states. Their lean IT team had improved the efficiency of their WAN through a migration to SD-WAN. They sought a similar technology to improve their manual and scripted approach for switches—Juniper EX, QFX and SRX series. Their key challenges were automating OS upgrades and configs for new deployments, ensuring consistent configs and deployment of new changes, monitoring for change and performing audits. Thanks to Gluware Intelligent Network Automation, they were able to realize ROI including elimination of costly manual errors and outage reduction and increasing overall efficiency.

Packet Pushers Podcast

Gluware delivered for First Bank, providing a practical useful automation platform. First Bank found the configuration modeling easy to use and modify the network operations. The detection of configuration drift highlighted gaps in procedures, and remediation was automated.



Topics Covered in Podcast

- What is the problem you were trying to solve and why did you choose Gluware?
  - Previous experience with scripting
  - What other technologies did you investigate?
- First Bank Architecture using Juniper switches
- What was your experience using Gluware and the various applications?
  - Drift and Audits
- Findings
- Surprises
  - Config Modeling
- Ability to remediate
- What you liked about Gluware
- Challenges of doing all this remotely because of COVID
- Overall findings/benefits from using Gluware

Listen to the podcast

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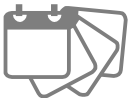
First Bank Initiative Results

Manual Errors

Eliminate manual errors



configuring and writing scripts

Outage Reduction

Eliminated most manual config errors

Efficiency

Increase overall efficiency for network engineering team

Identify Issues

through continuous configuration drift monitoring and audits

Intelligence

Implement intelligent software control of existing Juniper switches

Standardize Configs

Standardize configurations and automate ongoing changes

Automate

operating system upgrades of Juniper switches

Reduce

downtime and avoid outages due to manual errors

Once everything is controlled from a single pane of glass it makes it easier to manage the whole network as an entity….I am surprised at how much Config Drift was finding and the auditing function has been extremely useful….Since the time we had Gluware it has changed the way we do business.

–Mike Pazarena Network Engineer, First Bank

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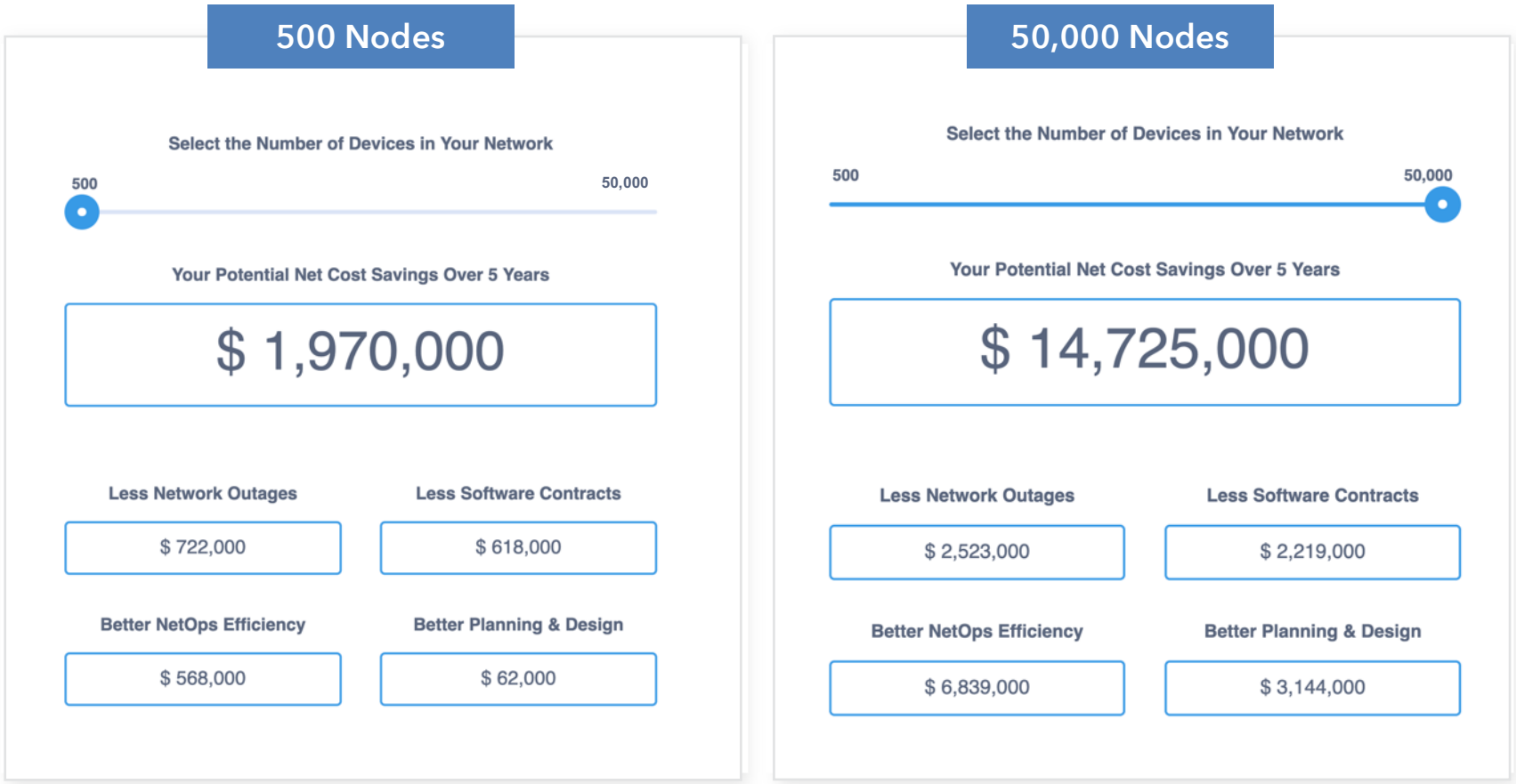
Calculate ROI

Discover the Value in your Network

Gluware is the network automation solution that helps customers overcome the three barriers they face as they begin their network automation journey and achieve ROI for their organizations – technical debt, out-of-date planning and outdated solutions.

Whether your network size is 500 nodes or over 50k, you can uncover its hidden value with the **Gluware Value Calculator**.



Calculate your savings or **contact a Network Automation Specialist**.

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