

The background is a vibrant, abstract composition of numerous colorful rays and shapes radiating from a central point. The colors include dark blue, light blue, green, yellow, orange, red, and white. Some shapes are solid, while others have circular cutouts. The overall effect is dynamic and energetic.

# TURN IT UP

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The bridge to possible

# Measuring the Value of SD-Access

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# Agenda

- About Customer Zero
- Our Value Approach
- Why SD Access?
- What Did We Do?
- What Was the Impact?
- How Was Value Measured? Four Pillars
- Lessons Learned

# About Customer Zero: Our Mission

## *Improve* Quality

Engage BG/BU teams early in lifecycle to create value in design phase and improve solution quality once deployed

## *Drive* Value

Demonstrate value of products and solutions through ROI and business cases including defining solution architectures

## *Proof of* Scale

Prove solutions scale across the Cisco environment and transition to IT teams

Integrate solutions across BEs, share best practices & lessons learned, showcase outcomes

## Customer Zero Outcomes



Accelerate  
Customer Adoption



Drive Value Through  
Integrated Solutions



Increase Delivery  
Velocity

# Value Management Process

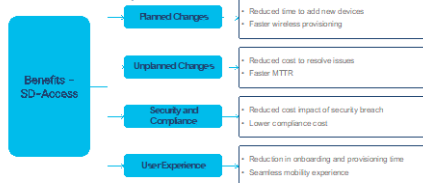
## Customer Zero Value Chain

### Scope Portfolio Develop Value Hypothesis

- Research Cisco challenges, develop problem statement
- Articulate new solutions use cases and outcomes
- Describe current and future states, business/IT impacts
- Develop value hypothesis to test

### Value hypothesis, value map

#### Draft Value Map – SD-Access



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### Validate Use Cases and Value Impact

- Test solutions (Engineering)
- Validate use cases, business outcomes, and value framework
- Seek stakeholders' feedback
- Iterate on value map, draft narrative

### Value framework, impact analysis

#### SD-Access: Impact on Cisco IT

Challenges/Opportunities	Capability	Impact
<ul style="list-style-type: none"> <li>• Inefficient or expensive onboarding, provisioning, and implementation of access and usage policies for users and devices</li> <li>• Lack of real-time visibility of which users and devices are on the network and which applications they're accessing</li> <li>• Security issues due to inconsistent enforcement of policies and difficult to apply segmentation</li> <li>• Inconsistent policies across networks, especially wired and wireless networks, leads to complexity in managing separate networks</li> <li>• Complicated due to multiple network extensions and coordination needed</li> <li>• Challenging to adapt new capabilities and services</li> </ul>	<ul style="list-style-type: none"> <li>• Automate user access policy</li> <li>• Advanced analytics for user and device identification</li> <li>• Automated end-to-end network segmentation</li> <li>• Role-based access profiles for effective segmentation</li> <li>• Policy consistency throughout</li> <li>• Automated network construction/operations</li> <li>• Automated deployment at scale</li> </ul>	<ul style="list-style-type: none"> <li>• Faster and more reliable user device onboarding and provisioning</li> <li>• Deeper understanding of the network reduces time to provision for network changes (MTTR), and network operations and management costs</li> <li>• Reduction in security risks and in their cost impact with appropriate measure level of access</li> <li>• Lower network administration and management cost</li> <li>• Reduced cost of operations</li> <li>• Network management efficiencies</li> <li>• Improved agility and ability to scale based on existing business results</li> </ul>

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### Analyze and Quantify Value

- Draft financial value impact
- Analyze financial logic, draft value narrative
- Measure impact of the solutions
- Finalize business value case

### Financial analysis

#### Measuring the value of SD-Access

Value areas	Use cases	Value metrics	Why?
<b>1) Network administration cost/reduced changes</b>	Network migration and upgrade automation	<b>Time to initial migration (24 hours)</b> <b>Cost reduction from 14 to 4 hours</b> <b>Time for bulk factory reset (15 minutes)</b> <b>Cost reduction from 2 hours to 15 minutes</b>	<ul style="list-style-type: none"> <li>• Plug and play provisioning. Streamline flow to implement policy changes with fewer steps and decision points, reduced time</li> <li>• Clear visual representation of traffic flows between endpoint groups with details such as protocols, ports used, etc.</li> <li>• Network visibility, advanced analytics for user and device identification and compliance</li> <li>• ADMM help clearly articulate endpoints into logical groups</li> <li>• Consolidated data per user and device</li> <li>• Plug user, device, and application traffic segments without reconfiguring the underlying physical network</li> <li>• Role-based access protect users and devices against lateral movement</li> </ul>
<b>2) Security and compliance</b>	Policy-based segmentation	<b>Cost impact of security breach</b> <b>Compliance cost</b>	<ul style="list-style-type: none"> <li>• Apply the right policies for users or devices to any application across the entire network, no bulky rules and tables</li> <li>• Faster onboarding and provisioning of new user or device</li> </ul>
<b>3) User experience</b>	Automate user access policy, User mobility	<b>Onboarding and provisioning time</b> <b>Seamless mobility experience</b>	

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# Why SD Access?

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# Why SD Access?

## Traditional Network

Hardware Centric

Manual Configurations

Siloed Security Policies

Multiple Networks

## SD Access

 Software Driven

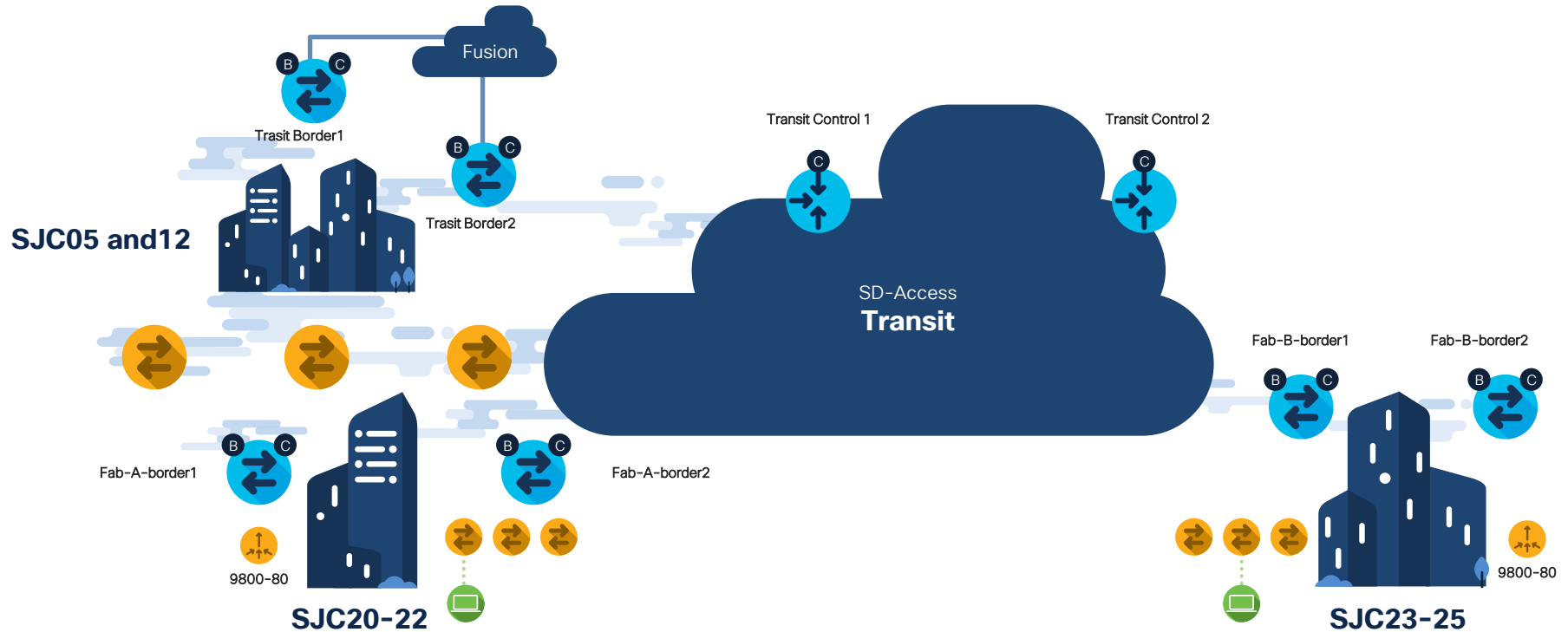
 Automated

 Effective Segmentation

 Single Enterprise Network

# Multi-Site SD-Access for Distributed Campus

This is what we have deployed - San Jose





What Was the  
Impact?

How Did We  
Measure It?



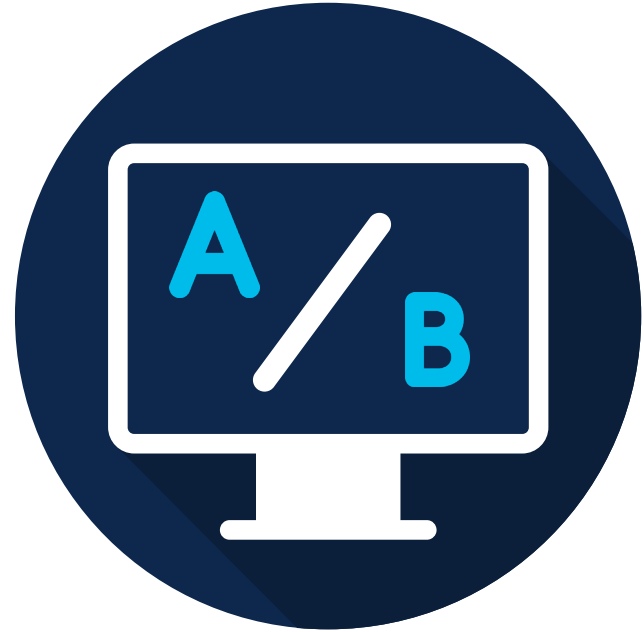
# Where Was the Value? How Did We Measure It?

## Four Pillars...



Value areas	Use cases	Value metrics	Why?
Unplanned changes	Troubleshooting Hardware failure	Network operations and management: MTTR, support costs	<ul style="list-style-type: none"><li>• Real-time network visibility</li><li>• Contextual data per user and device</li></ul>
Planned changes	Image management Configuration changes	Time to complete change request, Network downtime	<ul style="list-style-type: none"><li>• Automated and streamlined upgrade</li><li>• Visual representation of traffic flows</li></ul>
Total experience	Netop user experience Customer experience	Onboarding and provisioning time, User productivity	<ul style="list-style-type: none"><li>• Right policies for users or devices to any application</li><li>• Faster onboarding and provisioning</li></ul>
Security and compliance	Segmentation Onboarding Network access	Cost impact of security breach, Compliance cost	<ul style="list-style-type: none"><li>• Effective segmentation of the underlying physical network</li><li>• Role-based access policies</li></ul>

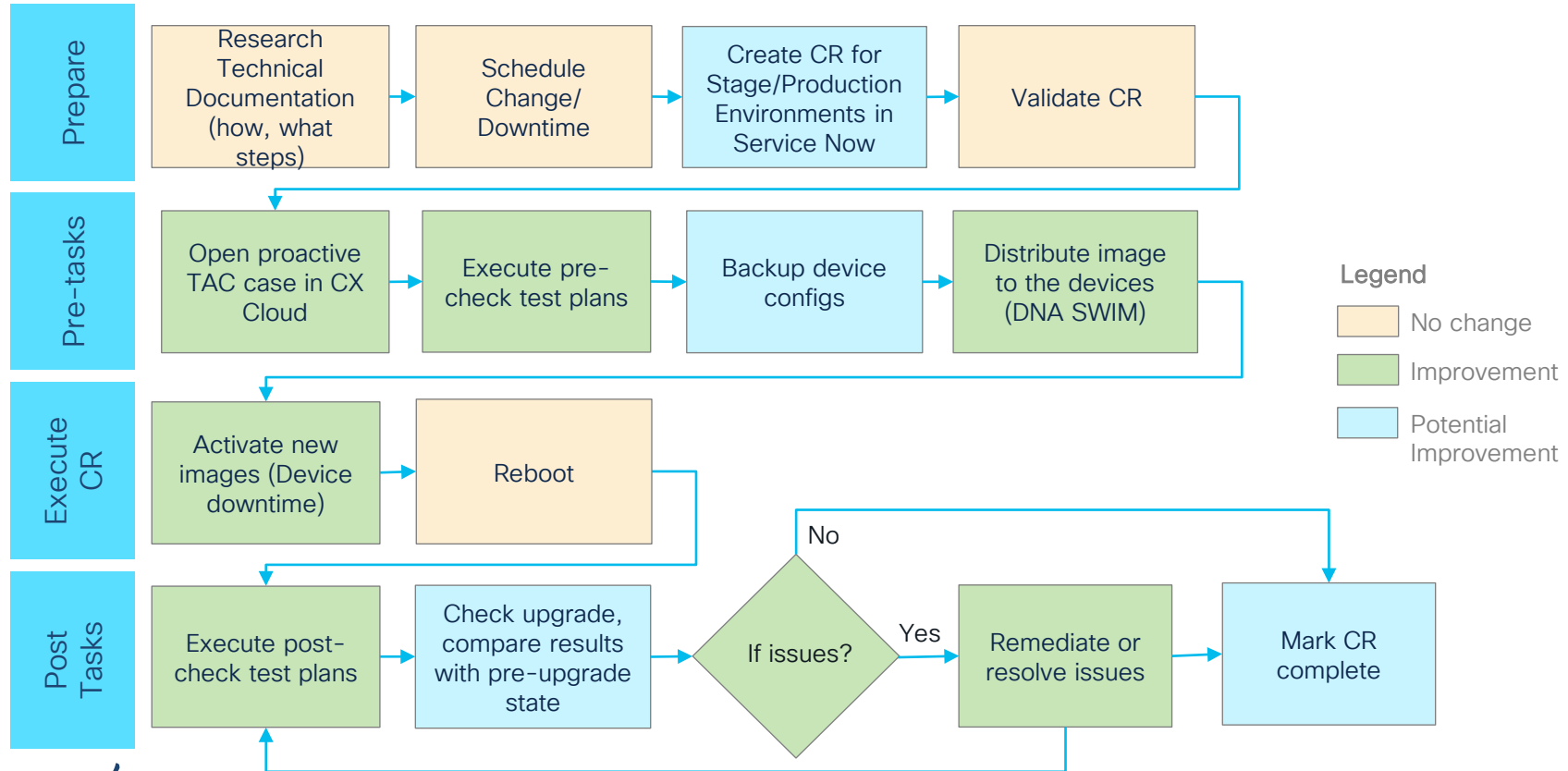
# Why A/B Testing?



# SD-Access Use Cases: Measuring Value

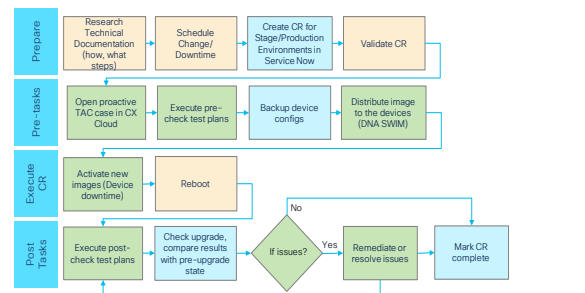
Use Cases	A: Traditional, Manual Approach	B: SD-Access Full Fabric
<b>Unplanned Changes</b>		
Troubleshooting	15 mins	5 mins (without DNAC)   10 seconds (with DNAC)
Hardware failure	Network failure 2 hours: 1 hour troubleshooting, collecting error logs + 1 hour Case Management ( IT + TAC)	7 mins (without DNAC)   2 mins (with DNAC)
<b>Planned Changes</b>		
Image Management	3 hours: 1 hour CR creation + 2 hours software upgrade & QA	40 mins = 10 mins CR creation, 20 mins software upgrade, 10 mins validation
Configuration changes		Simplified Configuration
<b>Total Experience</b>		
Netop User Experience	Very Laborious, Stressful, Time Consuming, Error Prone 5 mins per device (15-20 minutes total)	Easy, Stress-free, Time Efficient, Error Averse 3 mins per hop (2 hops, 6 minutes total)
Customer Experience		Faster Network Connectivity, Faster response and resolution in case of issues.
<b>Security and Compliance</b>		
Segmentation	Very Laborious, Stressful, Time Consuming, Error Prone 5 mins per device (15-20 minutes total)	Automated provisioning of Segmentation protects
Onboarding	Repeat configuration for every domain	One-time setup across fabric domain (3 buildings)

# Image Upgrade – Repetitive Upgrade (Planned Change)

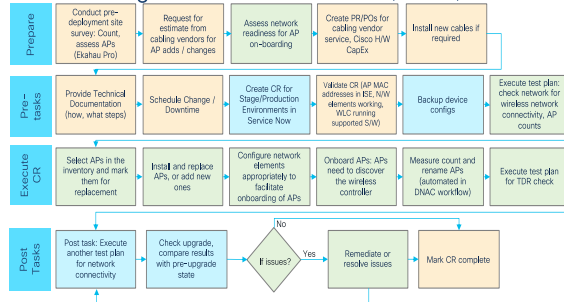


# Repeating This Methodology Across Use Cases

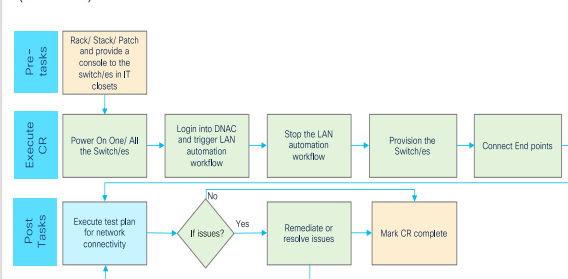
## Image Upgrade – Repetitive Upgrade (Planned Change)



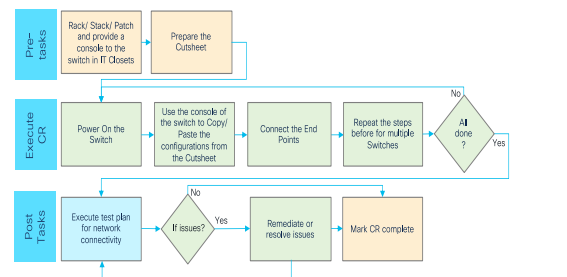
## On-boarding – New Access Points (Planned)



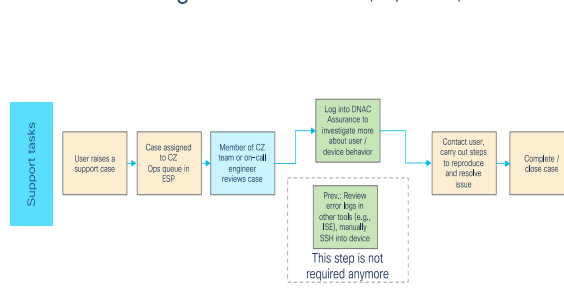
## On-boarding – New Access Switches (Fabric) (Planned)



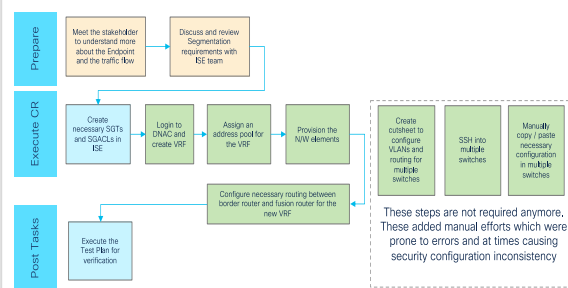
## On-boarding – New Access Switches (Non-Fabric) (Planned)



## Troubleshooting End User Issue (Unplanned)



## Segmentation (Security)



No change

Improvement

Potential Improvement

# Lessons Learned

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# Maximizing Value: Lessons learned

## NetDevOps Mindset

- Tightly couple team and technology
- Support engineer training and skill development

## Orchestration Guide

- Engineers own their processes
- Assigned an Orchestrator to ensure a timely migration

## Value Increases with Scale

- Identity-based policy is the only way to handle fine-grained security at scale
- Value is highest at scale, with large and complicated deployments

## Extend Controller-based Approach

- Value is maximized when SD Access and DNA-Center are tightly coupled
- Integrating assurance/Telemetry



# Resources

- Customer Zero session on how we migrated to SD Access
  - BRKCOC-2008: *Where the Rubber Meets the Road: Customer Zero's Journey to Multi-Site SDA*
- Other Customer Zero session
  - BRKCOC-2003: *Bringing the Cisco Office Experience Home with SD-WAN*
- [Cisco.com IT Use Cases](#)
- [Cisco IT Blogs](#)
- [Cisco IT as Customer Zero Video](#)
- [Cisco Validated Design](#) and [Design Guides](#)
- [Contact us](#) (email: [cz\\_value\\_ext@cisco.com](mailto:cz_value_ext@cisco.com))



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# Thank you

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The background is a vibrant, abstract composition of numerous overlapping, elongated, teardrop-like shapes in various colors including dark blue, light blue, green, yellow, orange, and red. These shapes radiate from a central point, creating a starburst or sunburst effect. Scattered throughout the composition are several small, solid-colored circles in blue, yellow, and red. The overall aesthetic is modern, energetic, and celebratory.

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