Transforming Enterprise Networks with Cisco SDAccess

CISCO Live

Real-World Strategies from CDW

Kanu Gupta Product Manager, Cisco Systems Puneet Duggal Principal Solutions Architect, CDW Canada

Cisco Webex App

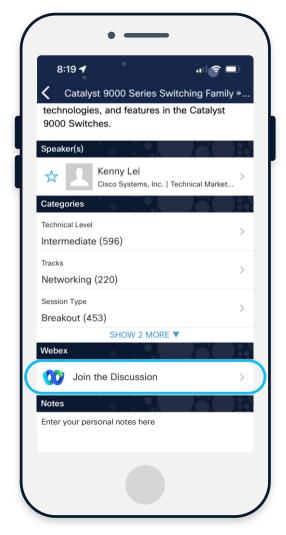
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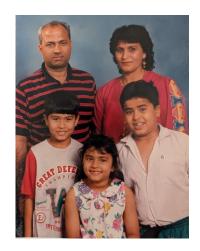


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Introduction CISCO Live

INTRODUCTION: PUNEET DUGGAL



Puneet Duggal

Cisco Practice Lead, Principal Solutions Architect 9+ years at CDW, 20+ years industry experience Location: Toronto, Canada

CCDE #20220011

AREAS OF SPECIALIZATION

- Software Defined Networking
- Zero Trust Security
- Hybrid Multicloud Infrastructure
- **Digital Transformation**
- **Operations Management**





























EVOLUTION OF CDW SOLUTIONS & SERVICES

1980-1995 1996-2006 2006-2019 2020+	
 Provide easy ACCESS to relatively simple product and OEM set (desktops, arginters) Provide easy ACCESS to increasingly complex IT set and OEM set (desktops, arginters) Provide easy ACCESS in changing omni-channel environment Provide easy ACCESS in changing omni-channel environment Industry Increasing Increas	Professional
	Services
CONTIQUE, IMAGING, ASSET SERVICES SERVICES	Professional
tagging • INTEGRATE new solutions into existing/legacy infrastructure • INTEGRATE solutions and leverage technologies including ML, IoT, AI, DevOps	Services
DAICHING ADAIVICS AND	Managed Services
Transform IT	Professional & Managed Services
POINT PRODUCTS SERVICES & SOLUTIONS INTEGRATED SOLUTIONS DIGITAL VELOCITY	



Where SD-Access Doesn't Fit

- Small / Simple Networks
- Lack of Training Budget
- Incompatible HW / Multi-Vendor Strategy
- Highly Specific / Non-standard requirements
- Low Organizational Maturity

Planning for Success

Global Networking Trends



Architecture Transformation

A network platform, integrated partner ecosystem, and digital experience assurance are expected to simplify operations and drive innovative experiences.



Security Convergence

Converging network and security technologies and workflows are a top priority and a best practice as security concerns expand with continued cloud adoption



Data Center at Scale

Data center infrastructure modernization is underway to meet Al workload and new application demands at scale





Al-enabled automation is a strategic priority to close the IT skills gap while streamlining operations, assuring digital experiences, and mitigating risk.



Sustainability Advancement

IT is looking to networking platform features that advance telemetry and visibility, and create smart, sustainable buildings to advance net-zero goals

Cisco Digital Network Readiness Model

The stages of the Cisco Digital Network Readiness Model DIGITAL ERA follow the standard five stages of maturity adopted broadly Automated Self- Driving Semi-Automated in business and IT consulting communities. It borrows heavily from IDC Research's maturity framework and taxonomies. Continuous service Fully dynamic service The taxonomy Cisco has adopted to describe the five alignment alignment Manual phases refers primarily to the level of business Partially dynamic service and network alignment. Closed-loop automated End-to-end automation alignment service assurance Best Effort Rapid threat detection Self-protecting network Domain-specific and containment Manual service alignment automation Fully enabled for cloud Fully integrated IT and INFORMATION ERA Centralized device-End-to-end QoS business analytics centric management **Automation** Centralized access policy Best-effort businessto-service alignment Security Service Assurance Siloed manual devicecentric management Analytics Architecture

Designed to lead Full Lifecycle Support for High Client Value

Operations Leadership Business Leadership Technology Leadership MANAGED SERVICES **ADVISORY SERVICES** PROFESSIONAL SERVICES **Evaluate Design and Build Procure and Select** Migrate/Implement **Define Requirements** Manage **Transformation** Solution Vendor Provide industry Define business Identify Evaluate each Manage Provide ongoing and solution requirements and integrations solution against organizational industry-specific expertise technical required to ensure change to ensure technology thought business and Develop business requirements for a seamless technical full-life-cycle value leadership for cloud-enabled migration requirements case creation clients Evaluate TCO, technology Architect solution Identify a short list Ensure hybrid cloud Orchestrate new including costs to solutions and components of manufacturers environments are hvbrid cloud transform, to run in

and flexibility benefits

the cloud, and for

baseline operations

Evaluate scalability

- needed
- Conduct demos/RFPs as needed
- Optimize supply chain
- setup and configured
- Hand-off environment to the client and/or MSP
- services as needed
- Ensure environments are secure and compliant
- Manage billing/costs

ADVISORY SERVICES

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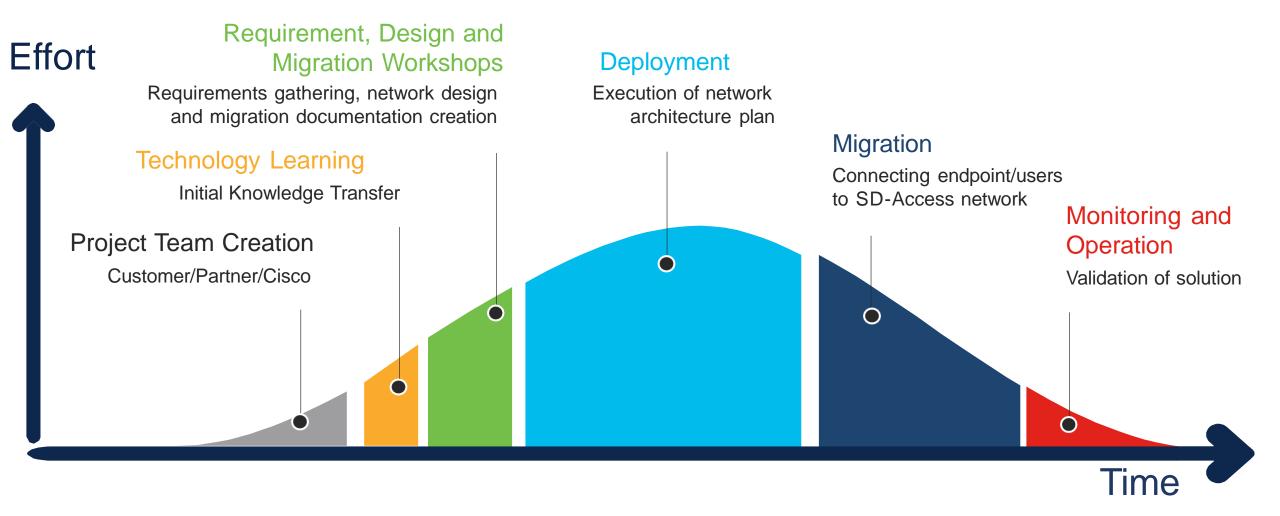
ENGINEERING PROFESSIONAL SERVICES

PRODUCT + PLATFORM MANAGED SERVICES



PSMs, Field CXOs and Services Principles

Stages of an SD-Access Project

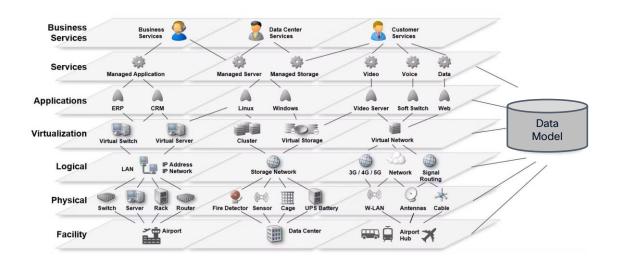


Forming the Fellowship & Understanding the Journey





Elevating Airport Operations & Passenger Experience



Business Challenge

- Business growing faster than IT can deliver digital services. Lack of agility
- Increasing Cybersecurity Risks. Limited Segmentation

Customer Priorities

- Enhanced Security & Compliance
- Superior Passenger Experience
- Increased Operational Efficiency
- Future-Proof Scalability
- · Guaranteed High Availability

CDW Engagement: Strategic Airport Network Design & Modernization

Foundation for Success: CDW Advisory Services

- Aligned with Business Goals
- Strong Financial Justification
- Clear Path Forward

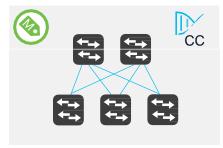
Key SD-Access Solution Highlights Designed by CDW:

- Centralized Command & Automation
- Granular Security & Segmentation
- Uninterrupted Operations & Connectivity

Outcome: A future-ready, secure, and agile airport network, strategically designed by CDW to meet specific operational demands and business objectives.

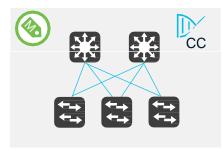
Enterprise Network Design

STP / Flat



- Flat L2 Vlan Design
- STP
- Gateway outside (e.g Firewall)

STP / Routed Core



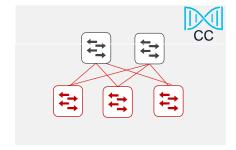
- L3 demarcation at core
- STP
- · Gateway inside

Routed Access



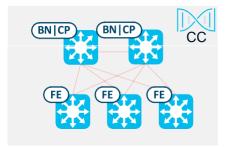
- Every Access switch is a gateway
- Routed
- Not very flexible
- IP address Design difficult

SD-Access - EVPN



- Fabric (underlay/overlay)
- Automated deployment using Catalyst Center
- Mobility
- Multi vendor support
- WLAN integration

SD-Access - LISP



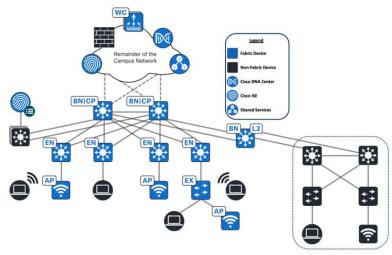
- Fabric (underlay/overlay)
- Cisco's Recommended solution
- Automated deployment using Catalyst Center
- Mobility
- No multi vendor support
- · WLAN integration

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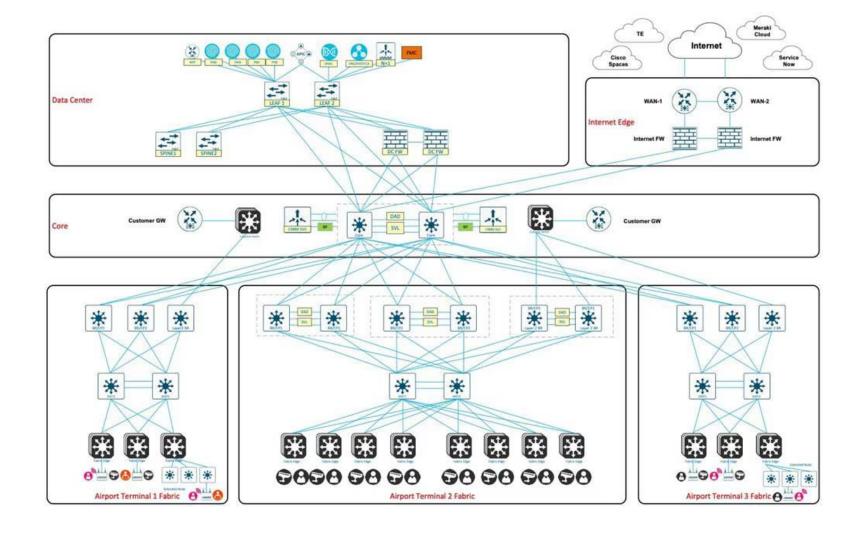
Proposed Fabric Site Topology

The following topology diagram has been generated based on the answers provided in the Fabric Site Profile section of the Design Tool.



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Airport Customer



Campus Network Automation

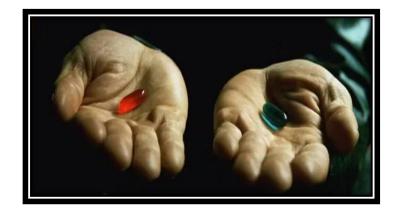
Cisco SD-Access		
Capability	Benefit to Airport Client	Quantitative Impact
Automate Network Device Deployment	IT Benefits: Secure, scalable, seamless zero-touch provisioning Unified deployment for new/replacement devices Business Benefits: Faster service/terminal rollouts Reduction in need for specialized on-site installers	 70% OpEx reduction Deployment: Days → Hours >90% fewer errors
Automate Software Image Management	IT Benefits: Automated upgrades & patching (less effort, lower risk) Improved PSIRT visibility & compliance enforcement Reduced network downtime (better user experience) Business Benefits: Aligns IT resources with business priorities via automation Faster service delivery Higher availability for critical airport systems (baggage, flight displays)	>75% faster upgrades>90% fewer outages
Predictive Security and Bug Protection	IT Benefits: Proactively addresses software issues using vulnerability scan & bug identifier. Minimizes unpatched software vulnerabilities. Business Benefits: Reduces configuration errors & rollbacks (fewer manual steps). Enhances protection for critical airport infrastructure	 >50% vulnerability reduction 20-30% fewer bug incidents 35% more efficient security teams
Network Device Compliance Management	IT Benefits: Centralized configuration & compliance management. Comprehensive checks (device image, configuration, security advisories, EoL). Business Benefits: Agility for service rollouts & network changes Maintains secure & compliant infrastructure. Ensures adherence to aviation industry regulations	 >25% improved audit pass rates >50% faster reporting

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Building Successfully

The Matrix

"You have to see it for yourself"



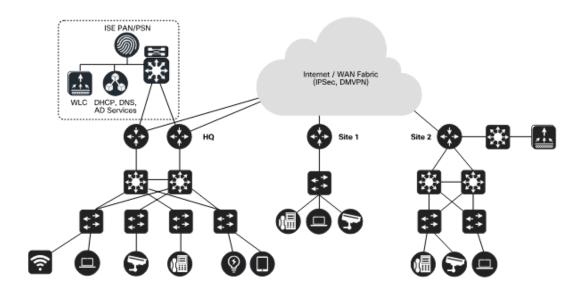
"I know Kung Fu"



"When you're ready you won't have to"



Transforming Financial Services with Secure Agility



Business Challenge

- Siloed & Complex
- Capacity Challenges Leading to Suboptimal Decisions
- Security & Compliance Concerns

Customer Priorities

- Achieve and consistently maintain auditable compliance with all relevant financial industry regulations and data security standards.
- Significantly strengthen cybersecurity defenses to protect against data breaches, financial fraud, and other malicious activities.
- Enhance the digital customer experience by ensuring reliable, high-performance delivery of all online and mobile banking applications.
- Improve operational efficiency and reduce the overall cost of network management, security operations, and compliance activities.
- Enable a faster time-to-market for new digital financial products and services to maintain a competitive edge.

CDW Engagement: Financial Services SD-Access Deployment & Integration

- **Strategic Deployment:** CDW Professional Services led the technical execution, transforming the financial institution's defined requirements into a fully operational SD-Access environment.
- **Meticulous Implementation:** Focused on detailed solution architecture (underlay, overlay, segmentation), seamless integration with existing systems (SIEM, ITSM), and carefully managed migration to minimize disruption.
- **Operational Readiness:** Ensured the client's team was prepared through organizational change management, targeted training, and a comprehensive handoff with documentation and runbooks.

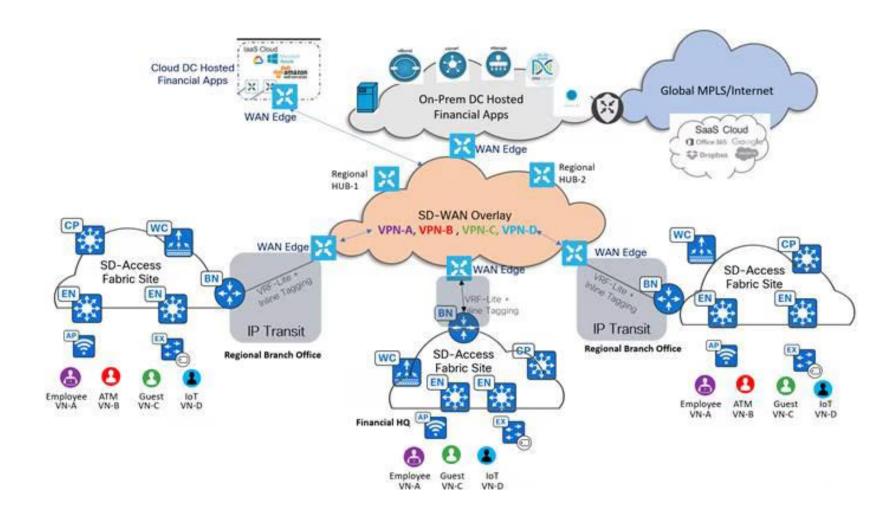
Key SD-Access Capabilities Deployed for Financial Services:

- Fortified Security & Compliance
- Optimized Performance for Operations
- Ongoing Optimization & Assurance

Migration Planning

Parallel	Incremental (One node at a time)	
Best for Branch (small) deployments	Branch or campus (of any size)	
Requires enough cable runs to create a new parallel network	Requires a couple of cables from new access and distribution switches	
Power and outlets for a parallel network	Incremental power and outlet requirement	
Legacy hardware in existing network	Legacy hardware removed gradually	
Upgrade most of the wired network	Upgrade some of the wired network	
Clean slate (leave behind any complexity in the old design)	Must carry forward the constraints of the old design in the underlay	
Test users in a complete new network	Test of functionality is partial	
Easy rollback of migrated users	Easy rollback of migrated users	

FSI Customer



Customer Outcome

Financial Services Industry

Innovation

Faster rollout of digital services & mobile features

Seamless FinTech integration; expanded service portfolio

Enhanced data analytics for personalization

Agility

Rapid service provisioning (branches, ATMs)

Quick adaptation to regulatory changes.

Risk

Strengthened data protection; reduced breach risk

Improved, auditable compliance; reputation protected

Experience

Customer: Higher satisfaction via better digital access

IT Staff: Streamlined operations & faster troubleshooting

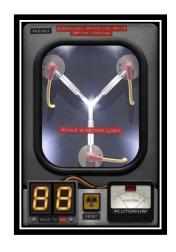
Transforming Successfully

Back to the Future

"Where we're going, we don't need roads"



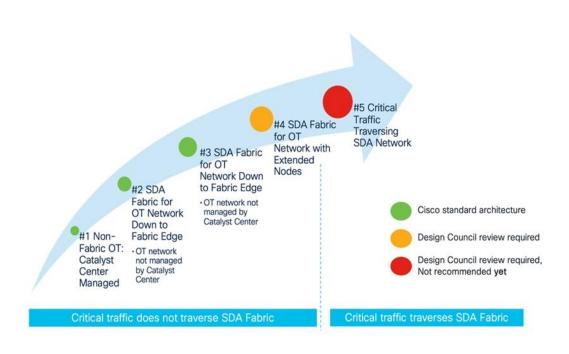
"1.21 gigawatts!!!"



"Great Scott!"



Modernizing Manufacturing for Secure and Efficient Production



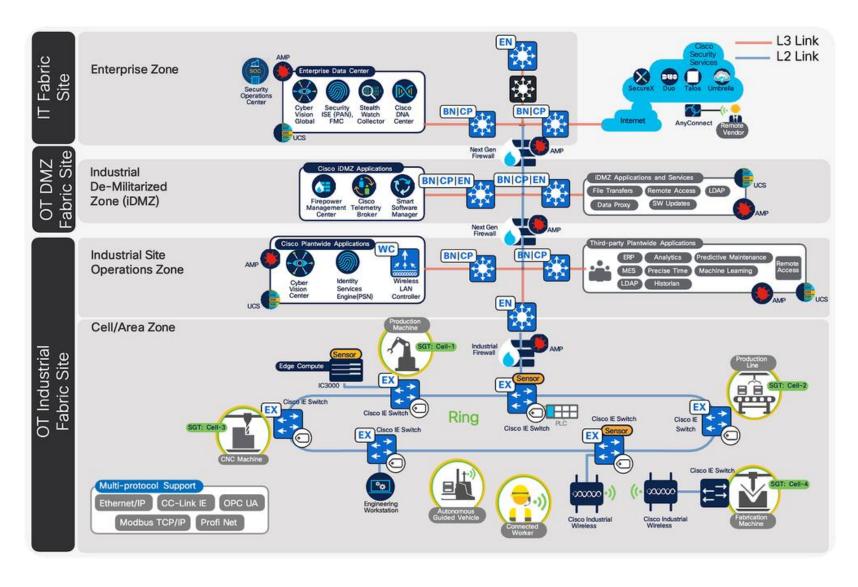
Business Challenge

- Fragmented & Isolated Systems: Aging OT networks were disconnected from IT, hindering crucial data collection from plant floor equipment.
- Security Policy Gaps: Difficult to implement consistent, centralized security policies across the disparate environments.
- Lack of Agility: The existing infrastructure couldn't support new IIoT deployments or smart factory applications

Customer Priorities

- Enhance the cybersecurity posture of the OT environment, specifically protecting ICS and SCADA systems from cyber threats and ensuring operational continuity.
- Improve operational efficiency and reduce production downtime through better data visibility and the enablement of predictive maintenance.
- Create a secure and scalable network foundation to support the widespread deployment of IIoT sensors and smart factory technologies.
- Simplify network management and ensure consistent policy enforcement across converged IT and OT domains.
- Achieve compliance with relevant industry standards for OT security, such as IEC 62443

Manufacturing Customer



Campus Network Observability and Insights

Cisco SD-Access Capability	Benefits to Customer	Quantitative Impact / KPI
Health Score for Network, Client, and Application	 IT Benefits: Proactive issue prevention for production systems. Centralized visibility across network, OT/IT machinery, & manufacturing apps Business Benefits: Higher uptime for production lines & automated systems. Reduced need for multiple monitoring tools. 	 App Incidents: 41% ↓ App Degradation Duration: 61% ↓ Tool Cost OPEX: 10-20% ↓
Forensic Troubleshooting Capabilities	IT Benefits: •Faster root cause analysis for production disruptions (via telemetry & AI/ML) •"Network time travel" for historical analysis without production halts Business Benefit: •Minimized production downtime due to quicker fixes	 Fault Isolation: >50% Faster MTTR: 40-60% ↓ Troubleshooting: 5-10 Engineer Hours Saved/Incident
Rapid Detection of Network, Client, and Application Issues	IT Benefits: Early issue identification (PLCs, robotics, scanners) via Active Sensors, Wireless 3D Analyzer & PoE Analytics, preventing production impact. Business Benefit: Increased uptime for critical manufacturing lines. Improved IoT data collection (e.g., for predictive maintenance)	 Unplanned Downtime: 86% ↓ OEE: 5-15% ↑
Automated Network Provisioning & Segmentation	IT Benefits: •Faster deployment/modification of network services for production lines/cells •Consistent policy enforcement Business Benefits: •Increased agility for factory reconfigurations & new technology adoption	 Network Provisioning Time: 67% ↓ Switch Deployment Agility: 67% ↑ Security Breach Impact: 48% ↓ Audit Prep Time (Segmentation): 50-75% ↓

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Customer Outcome

Smart Manufacturing

Cost

Reduced operational costs via network automation

Optimized resource use & reduced waste through IIoT/smart factory data

Agility

Dramatically reduced time for deploying/reconfiguring network services for production lines & equipment

Risk

Enhanced compliance (e.g., IEC 62443) via consistent policies, segmentation, and auditability

Experience

Improved visibility for plant managers/operations into production & equipment health for better decision-making

Conclusion CISCO Live

Digital Strategy

Business Process Management

Current State Business Processes and Requirements (High-Level)

Future State Processes and Requirements (High-Level)

Business Process Improvement

- · Prioritize improvements
- · Implement low-hanging fruit improvements
- · Lean, quality management, continuous improvement, performance measures

Organizational Change Management

Organizational Assessment

- Digital readiness diagnostic
- · Cultural assessment / alignment
 - Skills assessment

Organizational Impact

- · Define organizational changes
 - Organizational design
 - · Business benefits

Organizational Change Plan

- · Org change, communications, and training plan
 - Mobilize change team
 - Begin project communications

Enterprise Apps

Software Industry Landscape

- · Alignment with future state needs
 - Define potential options
 - · Scope of potential solutions

Strategic Alternatives & Roadmap

Short-List Software Evaluation

Technology Recommendation

Implementation Roadmap & Plan

Solution Architecture

Assess Current Architecture

- Current physical infrastructure / cost
 - IT skills
- · Integration, data, security, eCommerce, etc.

Analyze Architectural Impact

- · Required skills
- · Impact on physical infrastructure
- Integration, data, security requirements

Recommended Architecture

- Change plan
 - Costs

Business Intelligence / Analytics

Identify Analytics Requirements

- · Current BI / reporting requirements
- · Gap analysis with best practices
- Identify relevant industry trends: IoT, machine learning, Industry 4.0, etc.

Define Analytics Future Stage Requirements

- · Predictive analytics
- Data requirements
- Technology best practices

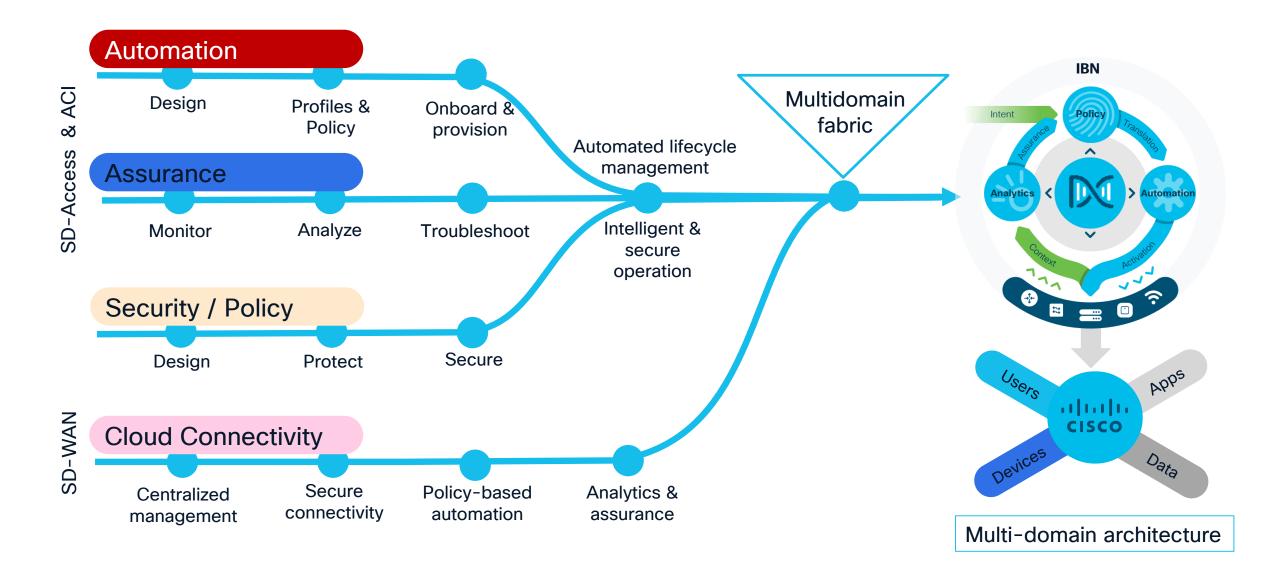
Analytics Roadmap

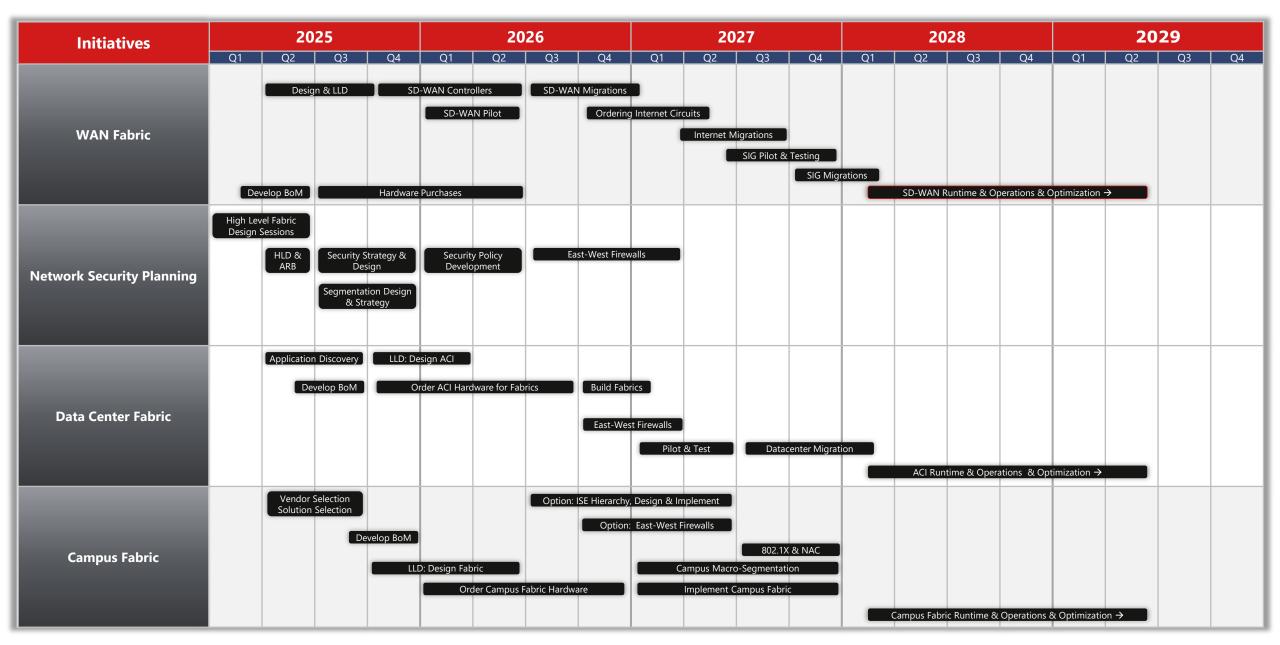
- Cost
- Software requirements
 - Deployment plan

Project Quality Assurance

Project Quality Assurance

- · Project governance and controls
 - Resources
 - · Risk mitigation







THANK YOU











































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