



Service Description: Advanced Services Subject Matter Consulting Services

This document describes Subject Matter Consulting Services, which are remote and/or onsite support Services Cisco provides that consist of general advice and guidance.

Related Documents: This document should be read in conjunction with the following documents also posted at www.cisco.com/go/servicedescriptions/: (1) Glossary of Terms; (2) List of Services Not Covered; and (3) Severity and Escalation Guidelines. All capitalized terms in this description have the meaning ascribed to them in the Glossary of Terms.

Direct Sale from Cisco. If you have purchased these Services directly from Cisco, this document is incorporated into your Master Services Agreement (MSA), Advanced Services Agreement (ASA), or equivalent services agreement executed between you and Cisco.

If no such Agreement exists, then Services shall be governed by the terms and conditions set forth in the SOW Terms & Conditions Agreement posted at: http://www.cisco.com/web/about/doing_business/legal/terms_conditions.html.

Sale via Cisco Authorized Reseller. If you have purchased these Services through a Cisco Authorized Reseller, this document is for description purposes only; is not a contract between you and Cisco. The contract, if any, governing the provision of this Service will be the one between you and your Cisco Authorized Reseller. Your Cisco Authorized Reseller should provide this document to you, or you can obtain a copy of this and other Cisco service descriptions at www.cisco.com/go/servicedescriptions/.

Cisco shall provide the Subject Matter Consulting Services described below as selected and detailed on the Purchase Order for which Cisco has been paid the appropriate fee.

Assumptions.

Customer acknowledges that:

- The Service Description defines exclusively the full scope of the Services that Cisco shall provide to Customer. This Service Description shall not apply to any Product or maintenance purchase(s).
- Cisco is not providing any deliverables. The Services shall be comprised of general technical assistance and shall be performed under Customer's overall direction and management. Customer is solely responsible for the determination and successful implementation of its Network, design, business or other requirements.
- Services may be performed at Cisco's discretion by Cisco or individuals, contractors, agents, suppliers or organizations employed by or hired under contract with Cisco.

ACI and Nexus 9K (AS-ACI-SME)

General technical assistance to aid Customers with products and technologies covered under Cisco Data Center Nexus 9000 Platform and ACI Fabric solutions.

The Cisco resource(s) shall have the following skills and be proficient in:

- End-to-end expertise in Cisco Nexus 9000 and ACI Fabric solutions
- Bridging across multiple technologies for purposes of assisting Customer in planning, designing, and implementing across these products in a data center environment
- Cisco Certified Internetworking Expert (CCIE) or equivalent
- Consulting and recommendations on L4/L7 technologies interface with ACI solutions
- Consulting and recommendations on programming aspects of these solutions
- Architecting Customer's data center network environments

Application Networking (ANS) (AS-ANS-SME)

The Cisco resource(s) shall have the following skills and be proficient in:

- Cisco ANS products and technology
- ANS requirements analysis
- ANS or Unified Networking Services products integration
- Configuration of the performance parameters inside the network layer

- Large scale L4/7 and caching design experience
- End-to-end networking
- Cisco Certified Internetworking Expert (CCIE) or equivalent

Cisco will provide technical advice and guidance to the Customer with:

- Solutions in Customer's data center including network consolidation, branch consolidation, and network virtualization
- Migrating from existing gear to next generation products
- Conducting training and one to one mentoring on ANS technology

Automation, Integration and Management (AS-AOS-SME)

General technical assistance to aid Customers with product and technologies covered under Cisco Automation, Integration and Management solution(s). These solutions may include one of the following: Cisco Cloud Center (CCC), UCS Director, Prime Service Catalog (PSC), Enterprise Cloud Suite (ECS), and other Cisco IT and Cloud Automation supported solutions.

The Cisco resource(s) shall have the following skills and be proficient in:

- Understanding, identifying and analyzing existing business processes or workflows to recommend automation capability improvements
- Design and implementation of Cisco Automation, Integration and Management solutions and products
- Development of detailed designs for how Cisco Automation, Integration and Management solutions and products integrate with Customer's third party infrastructure systems (e.g., IP address management, Configuration Management database, authorization/authentication)

Cisco will provide technical advice and guidance to the Customer with:

- Design discussions around current and future state of the implementation
- Creation and updates to existing business processes or workflows managing Customer's Cisco Automation, Integration and Management solutions and products
- Planning, architecting, designing or implementing a software solution that provides automation and orchestration, and solution resiliency into the Customer's business process or workflows based on Cisco Automation, Integration and Management solutions and products
- Custom installation, configuration, testing, tuning and integration of Cisco Automation, Integration and Management solutions and products
- Training and one to one mentoring on Cisco Automation, Integration and Management solutions and products

Borderless Networks (AS-BN-SME)

The Cisco resource(s) shall have the following skills and be proficient in:

- Routing and switching products and technology
- Cisco networking software features and functionality
- Complex routing and switching networks designs and configuring Cisco routing and switching devices
- Networking services requirements analysis
- Software Defined Access (SD-Access) Products and technology including campus network, security, wireless, network management functions, and network automation capabilities
- Analysis of networking services requirements for identifying considerations for implementing or migrating to an SD-Access capable infrastructure
- SD-Access fabric design, segmentation and policy, network automation, wireless design
- Cisco Software features and functionality for SD-Access fabric solution, ISE, wireless and network automation
- SD-Access Products configuration including DNA-Center, ISE, Catalyst switches
- All IP protocols
- Cisco Certified Internet Expert (CCIE) ® or equivalent

Cisco will provide technical advice and guidance to the Customer with:

- Overall network architecture process development and management activities including guidance on the process development of infrastructure architecture frameworks
- The network architecture lifecycle process, and associated development methodology
- Conducting training and one to one mentoring on routing and switching technology
- Defining and/or analyzing networking services requirements
- Designing complex routing and switching networks

- Assessment of network and operational readiness to assist with design and implementation of SD-Access and implementation of operational capabilities
- Development of SD-Access design Deliverable including SD-Access fabric design, security segmentation and policy, and network automation and analytics
- Development of implementation strategy and plan detailing requirements for deployment, integration and management of SD-Access
- Integration of SD-Access solution with the core network infrastructure
- Migration from an existing network to SD-Access
- Testing and validating of design and implementation of SD-Access
- Conducting training on the SD-Access solution including DNA-Center for automation, assurance and analytics, Identify Services Engine (ISE) for segmentation, SD-Access fabric

Cloud Meetings and Messaging (AS-CSG-SME)

General technical assistance to aid Customer with supported Cloud Meetings and Messaging product(s) and solutions.

The Cisco resource(s) shall have the following skills and be proficient in:

- Cisco Cloud Meetings and Messaging products and technologies including, but not limited to: Cisco Spark, Cisco Spark Board, Cisco Spark devices, Cisco WebEx, Cisco WebEx Meeting Server, Cisco Jabber (Cloud), Cisco Hybrid Services, Cloud Connected Audio, Hybrid Media, Single Sign-On and Federation.
- Overall cloud collaboration design, configurations, implementation and migration based on Cisco and industry leading practices to support the Customer in meeting their business goals.
- Integration with existing environment to support next generation collaboration experience based on Customer capability.
- Network availability and capacity planning.

Cisco Project Manager will provide technical advice and guidance to the Customer with:

- Project plan development to assist Customer with identifying the necessary steps, dependencies, and timeframes for agreed upon Cloud Meetings and Messaging projects.
- Overall implementation process from a project management perspective (user group coordination, user readiness and timing).

Cisco Engineer will provide technical advice and guidance to the Customer with:

- Planning and design of future implementation and integrations (e.g. LDAP, AD, Single Sign-On, Hybrid Services) from an engineering perspective.
- Questions / debugging of an existing implementation and integrations from an engineering perspective.
- Overall implementation process from a technical perspective (hardware, software and network).

Cisco Solution Architect will provide technical advice and guidance to the Customer with:

- Planning and design of future implementation and integrations (e.g. LDAP, AD, Single Sign On, Hybrid Services) from an architectural perspective.
- Questions / debugging of an existing implementation and integrations from an architectural perspective.
- Overall implementation process from an architectural perspective (e.g., overall solution, technical architecture, integrations, user deployment, cloud readiness and migration).

Location of Services:

- Services shall be performed remotely.

Cisco Connected Health (AS-CCH-SME)

General technical assistance to aid Customer with Cisco's Digital Healthcare Architecture ("DHA") technology foundation and associated solutions.

The Cisco resource(s) shall have the following skills and be proficient in:

- Cisco Certified Internetworking Expert (CCIE) or equivalent

- Cisco solutions and technologies with proficiency in the following solutions: DHA around Security, Datacenter, Virtualization, Mobility, Routing and Switching and Collaboration
- Integrating Cisco advanced solutions with specific healthcare applications
- Healthcare industry compliance (HIPAA, PCI, JCAHO) and Clinical Applications
- Migrating from existing products to next generation solutions
- Developing an in-depth Connected Health / DHA architecture
- Development of detailed designs, including network diagrams, system rules and reports, and sample software configurations for protocols, policies, and features

Cisco will provide technical advice and guidance to the Customer with:

- Analyzing requirements and specifying hardware and software requirements, including management tools
- Identifying and mitigating risks that affect business and compliance requirements
- Conducting an assessment of the network's readiness to deploy a new solution, including the existing IT infrastructure, devices, software operations, and management procedures
- Planning, design, and implementation of DHA
- Testing a pilot solution to confirm that expected performance is attained
- Development of an implementation strategy and plan detailing the requirements for solution deployment, integration, and management
- Custom installation, configuration, testing, tuning, and integration of a Cisco solution
- Implementation, configuration, and provisioning of Cisco operations and network management tools
- Conducting transfer of information pertaining to DHA products and management systems

Contact Center (AS-IPCC-SME)

General technical assistance to aid Customer with Cisco's Unified Contact Center products, service and technology. The Cisco resource(s) shall have the following skills and be proficient in Contact Center call flow plan and design, configuration and scripting changes or modifications and technical mentoring.

Cisco Application Consultant will provide technical advice and guidance to the Customer with:

- Business rule development, call flow design, configuration and scripting using Cisco and industry best practices
- Plan and design issues arising with the following products: Unified Contact Center ICM Edition, Unified Contact Center Enterprise Edition, IP Interactive Voice Response, and Customer Voice Portal
- Participating in extended team status calls and planning meetings
- Escalation of Cisco TAC cases opened by Customer with regards to the Unified Contact Center Solution products listed above.

Cisco Custom Application Engineer will provide technical advice and guidance to the Customer with:

- Custom development for Cisco products using the products Application Programming interfaces (API)'s. This includes: CTI development, CTIOS, Third Party CRM, and Custom developed applications, Custom reporting and Customer Voice Portal
- Participating in extended team status calls and planning meetings
- Escalation of Cisco TAC cases opened by Customer with regards to the Unified Contact Center Solution products listed above.

Cisco Network Consultant Engineer will provide technical advice and guidance to the Customer with:

- Plan and design issues arising with the following Cisco Unified Contact Center Enterprise products: Unified Contact Center ICM Edition, Unified Contact Center Enterprise Edition and Customer Voice Portal
- Participating in extended team status calls and planning meetings
- Escalation of Cisco TAC cases opened by Customer with regards to the Unified Contact Center Solution products listed above.
- Overall Contact Center deployment using Cisco and industry best practices

Cisco Solution Architect will provide technical advice and guidance to the Customer with the following:

- Unified Contact Center architectural engineering targeted at developing recommendations on standardization, virtualization, and fault tolerance of existing or new contact center technologies across Customer centers
- Identifying contact center overall design that will satisfy Customer business requirements
- Overall Contact Center deployment using Cisco and industry best practices
- Contact center sizing process
- Participating in extended team status calls and planning meetings
- Addressing any issues that arise with the following Cisco Unified Contact Center Enterprise products: Unified Contact Center

- ICM Edition, Unified Contact Center Enterprise Edition and Customer Voice Portal
- Escalation of Cisco TAC cases opened by Customer with regards to the Unified Contact Center Solution products listed above

Data Center Networking (DCN) (AS-DCN-SME)

The Cisco resource(s) shall have the following skills and be proficient in:

- Cisco DCN products and technologies including SAN, ANS, Nexus switches (1000V, 2000, 5000, 6000, 7000), Unified Fabric, Data Center Interconnect (OTV, Fabric Path, vPC), Workload Mobility (LISP)
- Cisco Certified Internet Expert (CCIE) ® or equivalent
- Performing technical assessments

Cisco will provide technical advice and guidance to the Customer with:

- Architecting their data center network environments
- Planning, design and implementation of Cisco products in Customer's data center

Hosted Collaboration Solution (HCS) (AS-HCS-SME)

The Cisco resource(s) shall have the following skills and be proficient in:

- Cisco HCS architecture, including required hardware and software, as well as system configurations
- Best practices for planning, design, deployment, testing, and operations of a HCS deployment
- Modification /expansion of the configuration and functionality of an HCS deployment, including the addition of redundancy and inclusion of additional application services

Cisco will provide technical advice and guidance to the Customer with:

- Cisco TAC and issues escalation procedures to support opening cases
- Planning and design for HCS
- Design review of design documents and other HCS project artifacts
- Informal transfer of information
- Certifying HCS design and deployment through Cisco Accelerate to Quality (A2Q)
- Researching solution options for desired platform configurations and deviations from standard documented HCS configurations
- Supporting technical questions from Customer arising during deployment, upgrades, or operations

IOT Industrial Advisory Services (AS-CIE-SME)

General technical assistance to aid Customer with Cisco's IoT technology and products.

The Cisco resource(s) shall have the following skills and be proficient in:

- Internet networking, which may include Cisco Certified Internet Expert (CCIE) or equivalent
- Planning, designing, implementing and operating IOT systems and solutions
- Conducting technical assessments for IOT technology solutions

Cisco will provide technical advice and guidance to the Customer with:

- Implementation, configuration, and provisioning of Cisco infrastructure to support IOT technologies
- Transfer of information, knowledge transfer, and one-on-one mentoring pertaining to IOT technologies
- Technical assistance to Customer during their deployment of IOT technology solutions

IT Service Management (AS-ITSM-SME)

The Cisco resource(s) shall have the following skills and be proficient in:

- Development of ITSM processes
- Cisco and industry best practices regarding infrastructure and or IT service operations, including comparison against other industry operations maturity benchmarks
- "As a Service" industry practices
- Networking, Data Center and Cloud technology stack
- Multiple ITSM and development methodologies which may include eTOM, COBIT, TOGAF and DevOps as well as ITIL

Cisco will provide technical advice and guidance to the Customer with:

- Customer's ITSM process and tools design and implementation, with a focus on concerns in focus areas such as change management, release and deployment management, transition planning and support, service and validation testing, knowledge management, incident management, problem management and continual service improvement
- Meetings and periodic conference calls to review Customer's ITSM status, planning and the IT Services being provided
- Monitoring a Customer-specific Cisco email alias to facilitate communication with Cisco designated services team
- Identifying requirements necessary for service transition to operations
- Agile Scrum activities
- Utilizing Customer provided data, scripts or internal process and tools documentation to provide consulting support
- Standardization and adoption of ITSM processes within Customer operations organization
- Operations excellence and/or operations transformation

Mobile Internet (AS-SP-MI-SME)

The Cisco resource(s) shall have the following skills and be proficient in:

- Cisco's Mobile Packet Core Portfolio including ASR5000 product and related technology
- Mobile Internet technologies and expertise in Mobile Network planning, design, implementation, operation and optimization
- Providing Cisco and industry best practices to Customer regarding Mobile Packet Core and the related environment
- Understanding of Mobile Wireless 3G and 4G network technologies, this complemented with Service Provider Wi-Fi technologies
- Integration and validation of one or more of the following services enabled on ASR5000: PDSN, HA, GGSN, PDF, PDG, PCSCF, ICSCF, PGW, SGW, ASNGW, TGT, SGSN, MME, IPSC, EWAG and HNBGW
- Enabling ASR5K inline value-add services such as Gx interface, Prepaid, QoS, Firewall, Parental Control
- Cisco ASR5000 software features and functionality
- Defining and/or analyzing mobile network requirements and design solutions to assist the Customer to meet those requirements

Cisco will provide technical advice and guidance to the Customer with:

- Mobile call flow design, solution and systems integration, and migration activities to assist the Customer meeting their business and technical needs
- Preparing the engineering and migration plans, Method of Procedures (MOP) and supporting the MOP execution
- Support the operations team with ASR5000 management and collecting KPIs
- Conducting training and one to one mentoring on the Mobile Internet technology topics

Mobile Wireless (AS-MW-SME)

The Cisco resource(s) shall have the following skills and be proficient in:

- Business value justification, enterprise architecture, network management strategy, solution integration, and/or program design and management
- Wireless and IP network planning, design, implementation, operation and optimization
- Converged wireless (voice and data) network design and optimization
- Cisco software features and functionality
- Configuring Wireline and Wireless routing and switching devices
- Defining and/or analyzing networking services requirements
- Mobile technologies and expertise in Mobile Network Planning, Design, Implementation, Operation and Optimization
- SS7 over IP (IP Transfer Point)
- Cisco and industry best practices regarding IPRAN and the related environment
- Mobile Backhaul with integration and validation deployments: CSR, Aggregation router, MWR2941, ASR901, 7600, ASR903, ASR9k
- Defining and/or analyzing mobile transport requirements and design solutions to assist the Customer to meet requirements for Unified Mobile MPLS Transport Solution (UMMT)
- Timing over Packet: 1588v2, SynchE
- Cisco Certified Internet Expert (CCIE) ® or equivalent

Cisco will provide technical advice and guidance to the Customer with:

- Detailed design, configuration, testing, and troubleshooting

Mobility Experience and Insights (AS-IA-SME)

General technical assistance to aid Customer with intelligent guest Wi-Fi onboarding, customized mobility insights, or cloud-based

Connected Mobile Experiences (CMX) products, service and technology.

The Cisco resource(s) shall have the following skills and be proficient in:

- Cisco Certified Network Administrator (CCNA), Cisco Certified Internetwork Expert (CCIE) ® or equivalent
- Solution-level planning, design, implementation, operation and optimization
- Intelligent guest Wi-Fi device onboarding via Cisco Enterprise Mobility Services Platform (EMSP)
- Customized mobility insights focused KPIs relevant to line-of-business or IT
- Cloud-based Cisco Connected Mobile Experiences (CMX) design and deployment
- Ability to conduct relevant knowledge transfer and one-to-one mentoring
- Cisco software features and functionality
- Mobile application and enterprise system integration

Operational Support Systems (OSS) (AS-OSS-SME)

The Cisco resource(s) shall have the following skills and be proficient in:

- Operations Support Systems and Network Management Systems Architectures
- Analyzing operations support systems and network management services requirements
- Understanding of industry standard operations and network management frameworks, FCAPS, eTOM and ITIL.

Cisco will provide technical advice and guidance to the Customer with:

- Planning, designing, implementing and operating Operations Support Systems and Network Management Systems
- Implementation, configuration, and provisioning of Cisco operations and network management tools.
- Conducting training and one to one mentoring on Operations Support System

Optical (AS-OPT-SME)

The work is to be contiguous and a minimum of 40 hours. Customer shall provide any required test equipment and/or instrumentation for the duration of the engagement.

The Cisco resource(s) shall have the following skills and be proficient in:

- Cisco optical products and technologies including SONET, SDH and DWDM
- Configuring and testing Cisco optical products

Cisco will provide technical advice and guidance to the Customer with:

- Architecting Customer's optical networks environments
- Planning, designing, and implementing Cisco optical products
- Technical assessments optical networks environments
- Training and one to one mentoring on optical technology

Routing and Switching (AS-RS-SME)

The Cisco resource(s) shall have the following skills and be proficient in:

- Routing and switching products and technology
- Complex routing and switching networks designs
- Cisco software features and functionality
- Routing and switching devices configuration
- Networking services requirements analysis
- Software Defined Access (SD-Access) products and technology including campus network, security, wireless, network management functions, and network automation capabilities
- Analysis of networking services requirements for identifying considerations for implementing or migrating to an SD-Access capable infrastructure
- Complex SD-Access fabric design, segmentation and policy, network automation, wireless design
- Cisco software features and functionality for SD-Access fabric solution, ISE, wireless and network automation
- SD-Access devices configuration including DNA-Center, ISE, Catalyst switches
- IP protocols
- Cisco Certified Internet Expert (CCIE) ® or equivalent

Cisco will provide technical advice and guidance to the Customer with:

- Their overall network architecture process development and management activities including guidance on the process development of infrastructure architecture frameworks
- The network architecture lifecycle process, and associated development methodology

- Conducting training and one to one mentoring on routing and switching technology
- Assessment of network and operational readiness to assist with design and implementation of SD-Access and implementation of operational capabilities
- Development of SD-Access design including SD-Access fabric design, security segmentation and policy, and network automation and analytics
- Development of detailed implementation strategy and plan detailing requirements for deployment, integration and management of SD-Access
- Integration of SD-Access solution with the core network infrastructure
- Migration from an existing network to SD-Access
- Testing and validating of design and implementation of SD-Access
- Conducting training on the SD-Access solution including DNA-Center for automation, assurance and analytics, Identify Services Engine (ISE) for segmentation, SD-Access fabric

Safety and Security (AS-PSS-SME)

The Cisco resource(s) shall have the following skills and be proficient in:

- Cisco safety and security solutions and technologies with proficiency in the following solutions: VSMS-Video Surveillance Media Server, VSOM-Video Surveillance Operations Manager, Video Surveillance Safety and Security Desktop (SASD), IPICS – Interoperability and Collaboration System, and CPAM-Cisco Physical Access Manager.
- Analyzing safety and security requirements for storage area networks, Unified Communications solutions and wireless environments, and specifying hardware and software requirements, including safety and security management tools
- Understanding, identification and mitigation of safety and security risks that affect compliance requirements
- Development of detailed safety and security designs, including network diagrams, system rules and reports, and sample software configurations for protocols, policies, and features
- Technical safety and security and vulnerability assessments of the safety and security architecture and of individual safety and security devices, systems, and applications
- Cisco Certified Internet Expert (CCIE) ® or equivalent

Cisco will provide technical advice and guidance to the Customer with:

- Integrating Cisco advanced safety and security solutions with the core network infrastructure providing end to-end safety and security experience
- Migrating from existing products to next generation safety and security solutions
- Developing an in-depth safety and security architecture
- Assessment of the network's readiness to deploy a new safety and security solution, including the existing IT
- Planning, design, and implementation of safety and security solutions
- Testing a pilot safety and security solution to check that expected performance is attained
- Custom installation, configuration, testing, tuning, and integration of a safety and security solution

Security (AS-SEC-SME)

The Cisco resource(s) shall have the following skills and be proficient in:

- Security products and technologies including IOS security, intrusion detection and prevention, network admission control, remote access, host protection, perimeter control, and VPNs
- Analyzing software requirements specification including security management tools
- Understanding, identification and mitigation of security risks that affect compliance requirements
- Analyzing security requirements for data center, unified communications solutions, and wireless environments
- Cisco Certified Internet Expert (CCIE) ® or equivalent

Cisco will provide technical advice and guidance to the Customer with:

- Integration of Cisco advanced security solutions with the core network infrastructure providing end-to-end security experience
- Migration from existing products to next generation security solutions
- Technical security and vulnerability assessments of the security architecture and individual network devices, systems, and applications
- Development of an in-depth security architecture
- Assessment of the network's readiness to assist the Customer with the deployment of a new security solution, including the existing IT infrastructure, security devices, software operations, and security management procedures
- Development of detailed security designs, including network diagrams, system rules and reports, and sample software configurations for protocols, policies, and features
- Development of an implementation strategy and plan detailing the requirements for deployment, integration, and management
- Custom installation, configuration, testing, tuning, and integration of a security solution

- Planning, design, and implementation of security solutions
- Testing a pilot security solution to check that expected performance is attained

Security Advisory (AS-SEC-ADVIS-SME)

General assistance to aid Customers with security tactics or strategy; including threat management, risk and compliance, cloud, mobile, and IoT business models.

The Cisco resource(s) shall have the following skills and be proficient in:

- Potential threats and vulnerabilities, risk and compliance frameworks, and security strategies for digitization
- Vulnerability management and penetration testing
- Security and compliance practices and capacity for strategic mentoring
- Planning and execution of cloud, mobile, or IoT strategies

Cisco will provide technical advice and guidance to the Customer with:

- Building a security strategy and for establishing the governance model for security program/policy development
- Planning and execution of risk and compliance management programs and third party programs
- Planning and execution of vulnerability management and penetration testing programs
- Planning and execution of secure software development lifecycle (SDLC) programs
- Planning and execution of incident response (IR), threat management, and secure operation centers (SOC) related programs

Service Provider Video (AS-SPVID-SME)

General technical assistance to aid Customer with Cisco's Video products, services and technology. The work is to be contiguous and a minimum of 40 hours.

The Cisco resource(s) shall have the following skills and be proficient in:

- Cisco Certified Network Associate (CCNA) or equivalent
- Day to day operations of the Digital Broadband Delivery System (DBDS)
- In-depth knowledge concerning two or more of the following topics: STB Client SW; VOD; Edge devices; SDV; DBDS Controller; DOCSIS
- Configuring, provisioning, implementation and testing basic feature functionality of Cisco DBDS, Video and DOCSIS components
- Troubleshooting complex critical issues, analyze root cause and provide recommendations
- Integrating new video solutions within existing Customer infrastructure and ability to bridge multi-vendor applications or components into the Cisco solution
- Cisco and industry best practices, knowledge transfer and/or one to one mentoring

Cisco will provide technical advice and guidance to the Customer with:

- Planning, designing, implementing and, migrating of Cisco DBDS, Video and DOCSIS components
- Readiness assessment for future deployments of next generation video solution integration

Social Collaboration (AS-SC-SME)

General technical assistance to aid Customer with supported Enterprise Social Software ("ESS").

Cisco Custom Developer will provide technical advice and guidance to the Customer with:

- Planning and design of future custom development on top of the ESS
- Technical questions / debugging of existing custom development on top of the ESS
- Product expertise around ESS APIs and the different options available for developing on top of and extending the ESS

Cisco Project Manager will provide technical advice and guidance to the Customer with:

- Project plan development to assist Customer with identifying the necessary steps, dependencies, and timeframes
- Overall deployment process from a PM perspective (user group coordination, user readiness and timing)

Cisco Engineer will provide technical advice and guidance to the Customer with:

- Planning and design of future ESS deployments and integrations from an engineering perspective
- Questions / debugging of an existing ESS deployment and integrations from an engineering perspective

- Overall deployment process from a technical perspective (hardware, software and network)
- Operations from an engineering perspective (e.g., pro-active monitoring, backups)

Cisco Solution Architect will provide technical advice and guidance to the Customer with:

- Planning and design of future ESS deployments and integrations from an architectural perspective
- Questions / debugging of an existing ESS deployment and integrations from an architectural perspective
- Planning and program enablement activities including use cases, training, community management, success criteria.
- Overall deployment process from an architectural perspective (e.g., overall solution, technical architecture, integrations, user deployment)
- Ongoing user rollouts, roadmap maintenance, reactively collecting and prioritizing requirements

Solution Validation Service (AS-SVS-SME)

The Service may include Validation Consulting Services for following:

- Cisco will provide Customer with validation technical consulting advice and guidance. Solution Validation Service (“SVS”) Network Consulting Engineer (“NCE”) resource to perform Services remotely unless otherwise required by Cisco or mutually agreed. This service may include:
 - Creating appropriate test plans based on Customer’s timetable and business goals
 - Conducting validation tests. The validation test cycle includes five steps:
 - Defining test scope and testing procedures based on your environment
 - Methodology development
 - Test plan development
 - Design validation testing
 - Results analysis
 - Cisco SVS NCE can work with Customer to support waterfall model to do validation of design or support Customer during agile method of testing.
 - Integration and validation of a design or architecture specific to the Customer’s use cases and workflows. The solution under test can include Customer provided third party software and hardware. The integration may include components of a hybrid cloud software stack with cloud provider integration such AWS and Azure. Network Function Virtualization (NFV) and Software Defined Access (SDA) technologies are also in scope.
 - Automating Customer test cases on Cisco or Customer premise.
 - Solution Validation Service excludes the following:
 - Hardware, Software and Tools from Cisco.
 - Network validation services on the Customer production environment.
 - Performance and scale testing can be accommodated and verifies that the solution performance will meet Customer’s requirements prior to deployment.
 - Migration Validation including the testing of hardware, software, and architecture migration support. Examples include code upgrade validation and method of procedure (MOP) validation.
 - Life cycle management that can include a dedicated lab validation, software maintenance upgrade (SMU) validation, major/minor release upgrade validation, MOP validation, new hardware and feature validation, and capacity/scale modeling.
 - Validate and refine the fundamental building blocks of an SDA solution deployment based on Customer’s business and technical requirements. Solution components can include: designing under an overlay network, network provisioning/orchestration, addressing pool definitions (segment strategy and host onboarding), and policy definition and administration. Typical deployments can consist of the following: Cisco Catalyst product family switches, Cisco Routing (ISR, CSR, ASR platforms), DNAC appliance (DNA Center), ISE (Cisco Identity Service) appliance or virtual machine, Cisco Wireless Lan Controller (WLC) and access points, and other components as scoped.
 - Design and validation of ‘typical’ L2 / L3 routed campus network migration to Cisco’s SDA solution. Components can include: underlay design and configuration (per Cisco validated design), overlay design and provisioning via DNA-C, migration of existing L2 / L3 VLAN segmentation to SDA policy strategy, wireless and wired host migration from existing campus network to ‘fabric’ enabled design.
 - Confirm that newly deployed solutions support design standards and are ready to carry production traffic.
 - Create solution validation reports.
- The Cisco SVS NCE resource(s) shall have the following technology and solution validation skills:
 - Core Networking Products and Technologies:
 - Routing and switching products and technology
 - Complex routing and switching networks designs
 - Cisco software features and functionality
 - Routing and switching devices configuration
 - Networking services requirements analysis
 - SDA products and technology including campus network, security, wireless, network management functions, and network automation capabilities

- Analysis of networking services requirements for identifying considerations for implementing or migrating to an SDA capable infrastructure
- Complex SDA fabric design, segmentation and policy, network automation, wireless design
- Cisco software features and functionality for SDA fabric solution, ISE, wireless and network automation
- SDA devices configuration including DNA-Center, ISE, Catalyst switches
- IP protocols
- Data Center Products and Technologies:
 - Cisco Data Center Networking products and technologies including SAN, Nexus switches (1000V, 2000, 5000, 6000, 7000), Unified Fabric, Data Center Interconnect (OTV, Fabric Path, vPC), Workload Mobility (LISP)
 - End-to-end expertise in Cisco Nexus 9000 and ACI Fabric solutions
 - Cisco Application Network Services products and technology
 - Cisco Automation, Integration and Management solutions and products integrate with Customer's third party infrastructure systems (e.g., IP address management, Configuration Management database, authorization/authentication)
 - Cisco Storage Area Network products and technologies
- Collaboration Products and Technologies:
 - Cisco Cloud Meetings and Messaging products and technologies including, but not limited to: Cisco Spark, Cisco Spark Board, Cisco Spark devices, Cisco WebEx, Cisco WebEx Meeting Server, Cisco Jabber (Cloud), Cisco Hybrid Services, Cloud Connected Audio, Hybrid Media, Single Sign-On and Federation.
 - Overall cloud collaboration design, configurations, implementation and migration based on Cisco and industry leading practices to support the Customer in meeting their business goals.
 - Integration with existing environment to support next generation collaboration experience based on Customer capability.
 - Unified Contact Center architectural engineering targeted at developing recommendations on standardization, virtualization, and fault tolerance of existing or new contact center technologies across Customer centers
- IOT Products and Technologies
 - IOT systems and solutions
- Mobile Internet Products and Technologies
 - Cisco's Mobile Packet Core Portfolio including ASR5000 product and related technology
 - Mobile Internet technologies and expertise in Mobile Network
 - Mobile Packet Core and the related environment
 - Understanding of Mobile Wireless 3G and 4G network technologies, this complemented with Service Provider Wi-Fi technologies
 - Validation of one or more of the following services enabled on ASR5000: PDSN, HA, GGSN, PDIF, PDG, PCSCF, ICSCF, PGW, SGW, ASNGW, TTG, SGSN, MME, IPSC, EWAG and HNBGW
 - Enabling ASR5K inline value-add services such as Gx interface, Prepaid, QoS, Firewall, Parental Control
 - Cisco ASR5000 software features and functionality
- Mobile Wireless Products and Technologies
 - Wireless and IP network, Converged wireless (voice and data) network Technologies
 - Cisco software features and functionality
 - Wireline and Wireless routing and switching devices
 - Mobile technologies and expertise in Mobile Network
 - SS7 over IP (IP Transfer Point)
 - Cisco and industry best practices regarding IPRAN and the related environment
 - Mobile Backhaul with integration and validation deployments: CSR, Aggregation router, MWR2941, ASR901, 7600, ASR903, ASR9k
 - Unified Mobile MPLS Transport Solution (UMMT)
 - Timing over Packet: 1588v2, SynchE
 - Intelligent guest Wi-Fi device onboarding via Cisco Enterprise Mobility Services Platform (EMSP)
- Optical Products and Technologies
 - Cisco optical products and technologies including SONET, SDH and DWDM
 - Safety and Security Products and Technologies
 - Cisco safety and security solutions and technologies: VSMS-Video Surveillance Media Server, VSOM-Video Surveillance Operations Manager, Video Surveillance Safety and Security Desktop (SASD), IPICS – Interoperability and Collaboration System, and CPAM-Cisco Physical Access Manager.
- Security Products and Technologies
 - Security products and technologies including IOS security, intrusion detection and prevention, network admission control, remote access, host protection, perimeter control, and VPNs
- Service Provider Video Products and Technologies
 - STB Client SW; VOD; Edge devices; SDV; DBDS Controller; DOCSIS
- Video Collaboration
 - Cisco Video Collaboration products and technologies

- Unified Communications Product and Technologies
 - Cisco Unified Communications (UC)
 - Cisco UC infrastructure and endpoint product releases
 - Cisco UC software application
 - Call routing plans, signaling and media protocols
 - UC application and UC infrastructure security
 - Gateway and interconnectivity solutions
 - IP inter-networking, LAN/WAN switching (including Layer 3 and Layer 4 routing protocols), ATM, and voice technology
- Wireless LAN
 - Cisco Unified Wireless Network and/or Cloud-Managed Meraki Wireless solutions.
 - 802.11 Radio Frequency (RF) Network Design and RF Survey, site planning and spectrum analysis.
 - Configuration, design, and troubleshooting of Wireless 802.1x security.
 - Design and support of Guest Access, Context-Aware Location, and Voice over WLAN Solutions
 - Cisco Prime Infrastructure (PI).
 - High Density (HD) wireless network design, Connected Mobile Experiences (CMX), location-based analytics.
 - Converged Wireless Network Design & Optimization.
- Solutions and Platforms
 - SAE, Hosted Collaboration Platform, Cisco connected Health
- Validation Tools
 - IXIA, Spirant

Storage Area Networking (SAN) (AS-SAN-SME)

The Cisco resource(s) shall have the following skills and be proficient in:

- Cisco SAN products and technologies
- SAN services requirements analysis
SAN environments planning, design, and implementation
- Protocols like FC, TCP/IP, FCIP, and iSCSI
- Cisco Certified Internet Expert (CCIE) ® or equivalent

Cisco will provide technical advice and guidance to the Customer with:

- Migration from existing SAN or DAS environments to Cisco MDS family based SAN
- Consolidating Customer's SAN environment
- Implementing all MDS family based intelligent features like SANTap, VSANs, RBAC
- Planning Customer's SAN management infrastructure
- Testing a pilot network to check that expected performance is attained
- Planning Customer's SAN Extension environments

Video Collaboration (AS-TP-SME)

General technical assistance to aid Customer with supported video collaboration endpoint(s) and infrastructure.

The Cisco resource(s) shall have the following skills and be proficient in:

- Cisco Video Collaboration products and technologies related to endpoints and infrastructure including, but not limited to: call control (Cisco Unified Communications Manager), gateways, call routing, recording & streaming, conferencing, transcoding, and other applicable focus areas.

Cisco Project Manager will provide technical advice and guidance to the Customer with:

- Project plan development to assist Customer with identifying the necessary steps, dependencies, and timeframes for agreed upon video collaboration projects.
- Overall implementation process from a project management perspective (user group coordination, user readiness and timing).

Cisco Engineer will provide technical advice and guidance to the Customer with:

- Planning and design of future implementation and integrations from an engineering perspective.
- Questions / debugging of an existing implementation and integrations from an engineering perspective.
- Overall implementation process from a technical perspective (hardware, software and network).
- Operations from an engineering perspective (e.g., pro-active monitoring, backups).

Cisco Solution Architect will provide technical advice and guidance to the Customer with:

- Planning and design of future implementation and integrations from an architectural perspective.

- Questions / debugging of an existing implementation and integrations from an architectural perspective.
- Planning and program enablement activities including use cases, training, community management, success criteria.
- Overall implementation process from an architectural perspective (e.g., overall solution, technical architecture, integrations, user deployment).
- Ongoing user rollouts, roadmap maintenance, reactively collecting and prioritizing requirements.

Unified Communications (AS-IPC-SME)

The Cisco resource(s) shall have the following skills and be proficient in:

- Cisco Unified Communications (UC) design, deployment and migration
- Cisco UC infrastructure and endpoint product releases
- Cisco UC software application releases
- Call routing plans, signaling and media protocols
- UC application and UC infrastructure security
- Gateway and interconnectivity solutions
- Two or more of the following topics: IP inter-networking, LAN/WAN switching (including Layer 3 and Layer 4 routing protocols), ATM, and voice technology
- Internetworking with troubleshooting in a large-scale network environment,
- Large scale network design
- IP networking, specifically around requirements for successful deployment of UC
- Telephony dial plan design and call routing and control protocols (e.g., H.323, Q.signaling, Receive and Transmit (E&M), ISDN Primary Rate Interface (PRI), Foreign Exchange Office (FXO), Foreign Exchange Station (FXS), Private Line Automatic Ringdown (PLAR), basic telephone service, Channel-associated signaling (CAS), Content services switch (CSS), Session Initiation Protocol (SIP), G.711/G.723/G.726/G.729, caller ID, direct inward dialing (DID))
- Current pervasive technologies and advanced technologies

Cisco will provide technical advice and guidance to the Customer with:

- Overall UC design, deployment and migration to support the Customer in meeting their business goals
- Provision of Cisco and industry leading practices to Customer in regards to UC design, deployment and migration
- Network management, network availability and capacity planning
- Participation in extended team status calls and planning meetings

Unified Computing Systems (UCS) (AS-UCS-SME)

The Cisco resource(s) shall have the following skills and be proficient in:

- Cisco UCS product and technologies
- Cisco and industry best practices regarding UCS design and implementation
- Certifications such as VCP, CCIE or equivalent skills

Cisco will provide technical advice and guidance to the Customer with:

- Analyzing Customer's compute requirements
- Planning, architecting, designing or implementing Customer's compute and virtualization environments
- Developing detailed UCS design
- Migration activities of Customer's existing products to UCS platform
- Custom installation, configuration, testing, tuning and integration of a server solution
- Testing a pilot UCS solution to check that expected operational characteristics of UCS platform is attained.
- Conducting training and one to one mentoring on UCS technology

Wireless LAN (AS-WLAN-SME)

The assigned Cisco resource(s) shall have the following skills and be proficient in:

- Cisco Certified Wireless Networking Expert (CWNE), Cisco Certified Internetwork Expert (CCIE), or equivalent skills.
- Wireless and IP Network Planning, Design, Implementation, Operation, and Optimization for Cisco Unified Wireless Network and/or Cloud-Managed Meraki Wireless solutions.
- Ability to define and/or analyze networking services requirements.
- 802.11 Radio Frequency ("RF") Network Design and RF Survey, site planning and spectrum analysis.
- Configuration, design, and troubleshooting of Wireless 802.1x security.
- Design and support of Guest Access, Context-Aware Location, and Voice over WLAN Solutions

- WLAN network management tools, features, and best practices, including deployment and support of Cisco Prime Infrastructure (PI).
- Analyzing and interpreting Wireless LAN operational data and leveraging Mobility Insight Services (MIS) solutions.
- Familiarity with advanced wireless use cases including High Density (HD) wireless network design, Connected Mobile Experiences (CMX), location-based analytics.
- Converged Wireless Network Design & Optimization.
- Configuring and troubleshooting 802.11 wireless clients including mobile devices.
- Cisco software features and functionality.
- Optimization of 802.11 Unified Wireless and Cloud-Managed Wireless Networks
- Configuring Wireless routing and switching devices.
- Ability to conduct training and one-to-one mentoring concerning Wireless LAN technology

Cisco will provide technical advice and guidance to the Customer with:

- Cisco's WLAN products, service and technology
- WLAN design and implementation to support the Customer in meeting their business goals
- Conducting training and one to one mentoring on WLAN technology