



Service Description: Cloud Consumption Optimization Services

This document describes the Cloud Consumption Optimization Services.

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.

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This Cloud Consumption Optimization Services is intended to supplement a current support agreement for Cisco products and is only available where all Product(s) in Customer's Network is supported through a minimum of core services such as Cisco's SMARTnet and Software Application Services, as applicable. Cisco shall provide the Cloud Consumption Optimization Services described below as selected and detailed on the Purchase Order for which Cisco has been paid the appropriate fee. Cisco shall provide a Quote for Services ("Quote"), identifying the various service elements with the corresponding SKU as shown in Appendix A, setting out the extent of the Services and duration that Cisco shall provide such Services. Cisco shall receive a Purchase Order that references the Quote agreed between the parties and that, additionally, acknowledges and agrees to the terms contained therein.

Cloud Consumption Optimization Services

Services Summary

The Cloud Consumption Optimization Services provide Customer with ongoing access to a cloud consumption dashboard and developed quarterly Cloud Consumption Optimization Reports, which include findings, analysis and recommendations, identifying and capturing Cloud Service Providers consumption characteristics relevant to the Customer's existing network environment.

Cloud Consumption Initial Assessment

Cloud Readiness Assessment Report
Cloud Maturity Assessment Report

Cloud Consumption Visibility

Cloud Consumption Dashboard (Ongoing)

Cloud Usage and Risk Analysis

Cloud Consumption Visibility Report (Quarterly)
Cloud Consumption Risk Analysis Report

Cloud Financial Analysis

Cloud Consumption Spend Analysis
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Business Case for Cloud

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Organizational Model Definition for Cloud

Organizational Model Design for Cloud Asset Lifecycle Management (CALM)

Cloud Governance Operational Setup

Cloud Asset Lifecycle Management (CALM) Design and Setup
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Approved Vendor List (AVL) Setup

Cloud Governance Operational Support

Onboarding Tools and AVL Operationalization Support
Organizational Model Operationalization Support
IT Audit Readiness Support

Quarterly Business Review

Quarterly Business Review

<h3>Cisco Responsibilities</h3>

Cisco shall provide services for the Customer's data center during Standard Business Hours (unless stated otherwise). Cisco shall provide the following General Support provisions for all Services selected by Customer:

General Support

- Conduct a kick-off meeting
- Designate an engineer ("Advanced Services Engineer") to act as the primary interface with Customer for its Cloud Consumption Optimization service delivery.
- Participate in regular visits to the Customer either via phone, email or in-person to review proactive deliverables and activities and to plan for next quarter. In-person visits not to exceed fifteen (15) days in aggregate. Additional visits will be mutually agreed at Cisco's then-current travel and labor rates.
- Participate in periodic conference calls (usually weekly) to review Customer's data center status, planning and the Services being provided.
- Monitor a Customer-specific Cisco email alias to facilitate communication with primary Advanced Services Engineer as well as the engineers on the Cisco's data center team.
- Make collaboration tools available for the purposes of (including but not limited to): hosting meetings, managing documentation, instant messaging, desktop sharing, and collaborative spaces.
- Upon completion of the Service, Cisco will work with Customer to remove Data Collection Tool, if used in performance of Service, typically software, from server as well as delete Customer account on cloud consumption web portal

The quantity of any reporting and efforts for ongoing activities described herein will vary depending on Customer requirements and what Customer and Cisco mutually agree upon when Services are purchased as identified in the Quote provided by Cisco.

Prepare and Present Quarterly Business Review

- Schedule with Customer up to four (4) quarterly visits per year (not to exceed fifteen (15) days in aggregate) to Customer's site to review Deliverables and activities and plan for the next quarter. Additional visits will be mutually agreed upon at Cisco's then-current travel and labor rates.

Project Planning Meeting

- Work with Customer to establish scheduling and agenda.
- Work with Customer to identify the single point of contact and confirm list of all Customer stakeholders, including data center and cloud subject matter experts (SMEs)

participating in the meeting.

- Conduct an onsite meeting for up to two (2) hours to explain the system requirements of the hardware for the Data Collection Tool, the required information about the network topology, the required routers for data collection, the required configuration to send NetFlow (Network Protocol) data to the Data Collection Tool, and how to complete the Cisco-provided cloud usage questionnaire.
- Review with Customer the discovery methodology and associated data collection activities and request Customer to make the necessary server configuration available to enable data collection.
- For NetFlow, work with Customer to identify the specific routers and/or switches that will be used to forward the data from routers/switches to Data Collection Tool
- In case the Customer uses a Secure Web Gateway (SWG), Cisco will work with the Customer to gather SWG log files on a regular basis
- Work with Customer to draft the project plan, including scheduling and agenda for the engagement

Data Collection

- Provide support limited to technical advice and guidance to assist Customer with installation of the Data Collection Tool on the Customer-provided server; the Data Collection Tool will gather and validate cloud services consumption data.
- Create an account on the Cisco Cloud Consumption web portal for Customer to review data collection.
- Conduct end-to-end configuration testing to confirm that NetFlow data from Customer routers/switches OR SWG log files data from SWGs is being transferred to Cisco Data Collection Tool.
- Monitor data collection process and work with the Customer to resolve any data collection issues

Cloud Consumption Initial Assessment

Cloud Consumption Initial Assessment will be performed at the beginning of the engagement after kick-off. Cisco will perform survey-based analyses to get a high level overview of the Customer's readiness for Cloud based.

Cloud Readiness Assessment (CRA) Report

- Provide CRA survey link to the Customer
- Analyze CRA response from the Customer and prepare a report based on the findings from the survey

Cloud Maturity Assessment Report

- Provide Maturity Assessment questionnaire to the Customer
- Facilitate the discussion on Cloud Maturity Assessment with the Customer
- Prepare a Cloud Maturity Assessment report based on findings from the discussion

Cloud Consumption Visibility

Cloud Consumption Dashboard

- Create log-in credentials for Customer based on CCO IDs provided by the Customer
- Verify Customer IDs have access to the Cloud Consumption Dashboard for the duration of engagement
- Run the Data Collection Tool on Customer network to collect data for the active duration of subscription
- Conduct grouping of collected Cloud consumption data into industry standard categories
- Tag the usage volume and number of unique source IPs, identifying authorized Cloud Service Providers aggregate and summarize the results about of cloud Service Providers
- Measure traffic and unique source Internet Protocol (IP) addresses for all Customer-identified authorized cloud services
- Measure traffic and unique source IPs for unauthorized cloud services
- Review and validate visibility findings including unknown Cloud services with Customer in a weekly or bi-weekly call with the Customer

Cloud Usage and Risk Analysis

Cloud Consumption Visibility Report (Quarterly)

- Analyze Cloud consumption data for the first quarter of the engagement and create a Cloud Consumption Visibility Baseline report
- Analyze Cloud consumption data for the subsequent quarters and create Cloud Consumption Visibility Update report to the report from the previous quarter
- Finalize quarterly visibility update and present Cloud Consumption Visibility Baseline and Update Reports as a part of Quarterly Business Reviews (QBR) with Customer

Cloud Consumption Risk Analysis Report (Quarterly)

- Analyze Cloud consumption data for the first quarter and create Cloud Consumption Risk baseline report
- Analyze Cloud consumption data for the subsequent

quarters and create Cloud Consumption Risk update report to the report from the previous quarter

- Review and validate Cloud usage risk findings with Customer in a weekly or bi-weekly call with the Customer
- Finalize quarterly risk update and present Cloud Consumption Risk Baseline and Update Reports as a part of QBR

Cloud Financial Analysis

Cloud Consumption Spend Analysis

- Conduct Customer interviews to gather pricing details for top Cloud services being consumed based on traffic and user volume
- Analyze pricing details and create Spend Analysis report based on Cloud Consumption data collected in the dashboard and through interview questionnaires
- Review and validate Cloud spend findings with Customer in a weekly or bi-weekly call with the Customer
- Finalize analysis and present Cloud Consumption Spend Analysis as a part of QBR

Cloud Consumption Spend Optimization Recommendations

- Conduct Customer interviews to collect spend data on applications and infrastructure hosted in Customer data centers impacted by discovered Cloud consumption
- Perform Total Cost of Ownership (TCO) comparison for applications and infrastructure between in-house and discovered public Cloud options
- Perform analysis and provide spend optimization recommendations
- Present Spend Optimization Recommendations report during QBR
- Provide advice and guidance for any Customer queries related to implementing the recommendations within the subscription period

Business Case for Cloud

Cloud Consumption Budgetary Roadmap and Business Case Justification

- Analyze Cloud usage trends in the Customer organization based on Cloud Consumption dashboard data
- Conduct interviews with Customer to determine gaps in the organizational structure, people skills, technology and processes to support desired Cloud Technology Framework

- Create recommendations to eliminate gaps between existing and desired Cloud usage and its governance
- Prioritize recommendations implementation jointly with Customer
- Assess budgetary requirements for gap reduction supported with a business case justification for required investments
- Present budgetary roadmap and business case in QBR
- Provide advice and guidance for any Customer queries related to implementing recommendations to reduce gaps between current and desired Cloud consumption and its governance

Organizational Model Definition for Cloud

Organizational Model Design for Cloud Asset Lifecycle Management (CALM)

- Share Cisco's best practices on Organizational Model Design for Cloud governance with the Customer
- Conduct interviews with Customer stakeholders to determine gaps in the existing Organizational Model and best practices
- Define Organizational Model for Cloud consumption governance for the Customer organization
- Present implementation recommendations to the Customer in QBR
- Provide advice and guidance for any Customer queries related to implementing the Organizational Model for Cloud governance during the subscription period

Cloud Governance Operational Setup

Cloud Asset Lifecycle Management (CALM) Design and Setup

- Share Cisco's best practices on Cloud Asset Lifecycle Management processes
- Conduct interviews with Customer stakeholders to understand existing processes and determine gaps between existing processes and best practices
- Provide advice and guidance for any Customer queries related to setting up Cloud Lifecycle Management processes according to best practices

CSP Onboarding Tools Setup

- Provide advice and guidance for any Customer queries related to setting up processes and tools related to on-boarding Cloud services.

Approved Vendor List (AVL) Setup

- Use discovered Cloud consumption data to create an Approved Vendor List of Cloud Service Providers for the Customer
- Publish the AVL to the Customer organization through implemented Cloud Lifecycle tools

Cloud Governance Operational Support

Onboarding Tools and AVL Operationalization Support

- Provide ongoing implementation support to the Customer to manage Cloud Service Provider on-boarding tools and Approved Vendor List for new CSPs discovered

Organizational Model Operationalization Support

- Provide ongoing support to the Customer to implement Organization Model setup

IT Audit Readiness Support

- Conduct Customer interviews to determine specific audit requirements for IT for the organization
- Provide audit readiness data on public Cloud services discovered being used in the organization
- Provide advice and guidance for any Customer queries related to data needs to be fulfilled by non-IT personnel in the organization

Quarterly Business Review (QBR)

Quarterly Business Review

- Schedule up to 3 on-site business days at the end of each service quarter to present findings and analyses performed during the quarter
- Present quarterly updates to visibility, risk analyses and financial analyses in QBR sessions
- Review engagement progress, quarter outcomes and specific requirements from the engagement with the Customer in the following months
- Conduct interviews and on-site data collection for activities and deliverables due in the following quarters

General Support

- Establish a Customer-specific Cisco email alias to facilitate communication with Cisco engineers such as

Advanced Services Engineers, Solution Engineers and Architects.

- Provide certain updates to Software Tools that Cisco identifies as appropriate for the Workload Automation solution related tasks during the performance of the Service, provided that all fees due and owing to Cisco under this Service Description have been paid. Software Tools may or may not include Hardware or Software. Customer acknowledges and agrees that Cisco shall retain full right, title and interest to the Software Tools. In addition to Cisco provided tools, the Advanced Services Consultant may utilize Customer provided data, scripts, internal or third party tools to assist in integration of support automation workflows
- Setup a joint collaboration file-sharing location with Customer to facilitate collaboration and knowledge exchange related to Service herein.
- Cisco may use an email alias, surveys or interviews to obtain Feedback on the Service.

- Data Collection Tools. Customer shall ensure that such Data Collection Tools or scripts are under lock and key and with access restricted to those Customer employee(s) or contractor(s) who have a need to access the Data Collection Tools and/or a need to know the contents of the output of Data Collection Tools. In the event Data Collection Tool provided by Cisco is Software, Customer agrees to make appropriate computers available and download Software as needed. Customer shall remain responsible for any damage to or loss or theft of the Data Collection Tools while in Customer's custody.
- Initial Set-up (One Time). If Cisco provides Data Collection Tools or scripts located at Customer's site, an initial set-up is required and the following must be performed:
 - Complete the Data Collection Tools installation and system configuration questionnaire(s) (i.e. IP address, netmask, hostname, etc.) and return to the Advanced Services Engineer
 - Install the Data Collection Tools hardware in a secure area with controlled physical access
 - Connect the Data Collection Tools hardware to the Network
 - Secure the Data Collection Tools behind Customer's corporate firewall
 - Provide access to Data Collection Tools for use by Cisco to install, troubleshoot, and maintain; for remote access, SSH, Telnet, and/or dial are options, but virtual private network (VPN) access to the Graphical User Interface (GUI) is preferred and recommended
 - When applicable, provide Data Collection Tools with HTTPS (SSL) access back to Cisco CCO/CCX servers located at nettools-upload.cisco.com; HTTP/FTP/PFTP may be used but Cisco strongly recommends HTTPS (SSL)
 - When applicable, provide Data Collection Tools with SSH to the nettools-upload.cisco.com server to support the transfer of Data Collection Tools patches, security patches, and Rules Based Markup Language (RBML) update packages; FTP may be used but Cisco strongly recommends SSH
 - Provide Data Collection Tools with SNMP and Command Line Interface (CLI) access to all Product(s) in the Network (necessary to facilitate collection of inventory and configuration information)
 - Provide Data Collection Tools with the Network Product list in seedfile format containing SNMP Read Only (RO) community string and CLI (vty/enable or TACACS user-id / password) for access to all Product(s) in the Network (necessary to create the Data Collection Tools seedfile)
 - Provide Syslog server and upload information

Customer Responsibilities

- Designate at least two (2) but not more than six (6) technical representatives in each area covered under DC including UCS, Nexus, SAN, L4/7, caching, server, Operations and automation(tools) who must be Customer's employees in a centralized Network support center (Customer's technical assistance center), to act as the primary technical interface to the Advanced Services Engineer(s) covering Data Center technologies. Customer will designate as contacts senior engineers with the authority to make any necessary changes to the data center device configuration. One individual, who is a senior member of management or technical staff, will be designated as Customer's primary point of contact to manage the implementation of services selected under this Service Description (e.g., chair the weekly conference calls, assist with prioritization of projects and activities).
- Provide reasonable electronic access (onsite and remote) to Customer's Network to allow the Advanced Services Engineer to provide support.
- Utilize communication and collaboration tool(s) provided by Cisco. If Customer uses non-Cisco provided collaboration tools for hosting meetings, managing documentation, instant messaging, desktop sharing, and collaborative spaces, provide Cisco with access.
- Customer will provide names of users who will have authorization to access these tools.
- Customer will support the implementation of software required to use tools in their environment.

- Data Collection Tools Management (Ongoing). In the event Data Collection Tools are installed on Customer's Network, the following items must be performed on a regular or as needed basis to support the operation of Data Collection Tools in the Network:
 - Notify Cisco about changes made to the Network such as Product(s) added/deleted and changes made to Product credentials
 - Fix access problems (Access Control List's, firewall, etc.) which may periodically occur between Data Collection Tools and the Product(s) in the Network
 - When applicable, fix data communication problems that prevent Data Collection Tools from uploading data to Cisco or prevent the remote maintenance of the Data Collection Tools
 - Notify the Advanced Services Engineer when changes are made to Syslog, DNS, proxy and gateway servers IP address(es)
- Provide a Network topology map, configuration information, and information of new features being implemented as needed.
- Notify Advanced Services Engineer of any major Network changes (e.g., topology, configuration, new IOS releases.).
- In the event the Network composition is altered, after the Services selected under this Service Description have commenced, Customer is responsible to notify Cisco in writing within ten days (10) of the change. Cisco may require modifications to the fee if the Network composition has increased beyond the original pricing quote for Services.
- Create and manage an internal email alias for communication with Advanced Services Engineer.
- Retain overall responsibility for any business process impact and any process change implementations.
- Designate a program manager to act as the single point of contact to which all Cisco communications may be addressed, having an appropriate level of applications and Network experience. Such person shall act as Customer's host for onsite assessment activity to coordinate facility access, conference rooms, phone access and staff scheduling.
- Ensure key engineering, networking and operational personnel as well as key detailed design stakeholders and decision-makers are available, as necessary, to participate in interview sessions as required by Cisco in support of an assessment. Review assessment report and suggestions provided by Cisco.
- Customer agrees to make its production, and if applicable, test Network environment available for installation of Data Collection Tools. Customer shall ensure that Cisco has all relevant Product information needed for an assessment.
- Customer shall advise Cisco immediately of all adds, moves and changes of the Product within Customer's Network.
- Assemble all necessary Network availability data to enable Cisco to calculate quarterly Network availability. The type of data required to perform the calculations includes the following:
 - Outage Start Time (date/time)
 - Service Restore Time (date/time)
 - Problem Description
 - Root Cause
 - Resolution
 - Number of end users impacted
 - Equipment Model
 - Component/Part
 - Planned maintenance activity/unplanned activity
 - Total end user/ports on Network
- Provide the low-level design document describing how Customer's Network is or is planned to be built and engineered to meet Customer's specific set of technical requirements and design goals. The low level design must provide a sufficient level of detail to be used as input to an implementation plan.
- Support data collection activities as needed to facilitate a specific Cisco analysis.
- Make remote console access available for Cisco staff members
- Provide an environment for installation and operation of collection, monitoring and conversion tools if required
- Provide its designated person(s) with instructions on process and procedure to engage the Advanced Services Engineer.
- Advise Cisco of its standard operating procedures related to its business practices, its internal operational nomenclature and Network to allow Cisco to effectively communicate and discuss changes with Customer in the context of Customer's business environment.
- Provide reasonable electronic access (remote and local) to Customer's Network to assist Cisco in providing support.
- Provide a single point of contact to be used for all required communication and coordination of requested sessions

- Ensure participation by Customer resources
- Provide facilities (such as: a room with projector, whiteboard and guest internet access) for Quarterly Business Review and other interview sessions.
- Customer is solely responsible for the determination and successful implementation of its Network, design, business or other requirements.
- This service shall be comprised of general technical assistance and shall be performed under Customer's direction and management and such assistance may not result in some or all of the tasks being completed. Services are provided to the Customer in support of initiatives and activities described herein and Cisco shall not assume any cost or schedule liabilities.
- Notify Cisco of any technical support requests or troubleshooting issues related to the Services by sending an e-mail to Cisco team at tkl-support@cisco.com
- Review with Cisco the scheduling and agenda, including for the onsite project planning meeting.
- Provide a list of all Customer stakeholders participating in the project planning meeting: project sponsor, director of applications or equivalent, director of networks or equivalent, Linux system administrator, and network administrator.
- Conduct inventory of known cloud services and complete the cloud usage questionnaire.
- Review with Cisco the inventory of known cloud services.
- Review with Cisco the network topology and determine the appropriate router (router must support NetFlow) for data collection.
- Work with Cisco to identify unknown cloud services.
- Review and validate unauthorized Cloud Service Providers
- Provide the data for the financial analysis (where Financial services are included in Assessment for Cloud Consumption Foundation Service)
- Review with Cisco the discovery methodology and associated data collection activities.
- Install the server and the Data Collection Tool instances.
- Set up the required hardware or virtual machine for the Data Collection Tool.
 - Set up VPN or equivalent that will allow Cisco engineer to remotely access the data collector server.
 - If applicable, configure the router(s) to send NetFlow (v.5/or v.9) data to the Data Collection Tool.
 - Work with Cisco to verify that the data collection is operational from end-to-end.
 - Respond to Cisco requests for system or router changes within one (1) week of the project planning meeting.
 - Work with Cisco to schedule and confirm list of all attendees and stakeholders during final presentation at the onsite meeting.
 - Review with Cisco the Cloud Consumption Optimization deliverables during QBRs
 - Reconfigure routers to pre-project status
 - Reclaim server or VM used for Data Collection Tool
 - Provide documented Customer requirements (business and technical) and high-level network topology specifications.
 - Provide documented information on Customer's existing infrastructure design including known cloud service providers, security policies and operational processes.
 - Unless otherwise agreed to by the parties, Customer shall respond within two (2) Business Days of Cisco's request for any other documentation or information needed to provide the Service.
 - Customer will create and manage an internal email alias for communication with the Cisco team.
 - Customer will provide the required access to the network and required port connectivity for appliances and tools; and, Customer will provide the required IP addresses to connect the devices and the necessary DNS/NIS, Windows domain/Active directory configuration details.
 - Customer acknowledges that completion of Services is dependent upon Cisco's use of Data Collection Tool.
 - Customer will provide a Linux server or virtual machine to run Data Collection Tool for discovery of cloud services with following HW/SW requirements:
 - CPU: 4-core Intel Xeon 3 GHz or better
 - RAM: 16GB

- Disk: 2TB (dependent on network traffic)
- OS: CentOS 6. 4 or higher version
- Required access to cloud server: Port 8080
- Provide Cisco with a permission to utilize any Cisco or third-party software on the Network for the use of Data Collection Tool, network inventory and performance data gathering.
- Customer is responsible to implement system change requests (firewall, ACL configuration, user-id creation, etc.) to facilitate data gathering within one (1) business day of the initial request.
- Customer agrees to make appropriate computers available and agrees to allow Cisco to install Data Collection Tool software as needed.
- All information (such as but not limited to: designs, topologies, requirements) provided by Customer is assumed to be up-to-date and valid for the Customer's current environment. Cisco Services are based upon information provided to Cisco by Customer at the time of the Services.
- Customer acknowledges that the completion of Services is dependent upon Customer meeting its responsibilities as indicated herein.

Acronyms

- CSP – Cloud Service Provider
- AVL – Approved Vendor List
- CALM – Cloud Asset Lifecycle Management

Appendix A

Service SKUs

The following list of service SKUs/Tags is provided for reference:

Data Center Optimization for Cloud Consumption (CON-AS-DCN,CON-AS-COS,CON-AS-BN,CON-AS-SEC)