Cloud Assessment Planning

Service Definition

CONTENTS

1   INTRODUCTION

This Service Definition is subject to all terms and conditions of the Service Order to which it was attached. This Service Definition describes and contains additional terms that apply to Synoptek's Cloud Assessment and Planning (the "Service").

This service definition found herein reflect Companies standards at the time the Service Order(s) was issued. Company reserves the right to change any particular standard herein to reflect then current company best practices or industry standards at its sole discretion with or without notice.

2   SERVICE OFFERING

Cloud Assessment and Planning provides cloud infrastructure analytics to help you maximize the value of the customer cloud investment. In delivering this Service, we will utilize a Software-as-a-Service ("SaaS") based platform providing deep visibility into the customer infrastructure and actionable analysis that empowers you to make data-driven decisions with confidence at each stage of the customer cloud journey – from assessing options and planning migrations to managing and optimizing cloud deployments. The three stages consist of Assess, Plan and Review; described below.

2.1   ASSESS

First phase will measure the Customers existing physical, virtual environment to understand the customer's current application workloads and their performance profiles. Based on the assessment, Synoptek will determine the optimal cloud configuration by providing information on the instance sizes, network bandwidth and the different price plans

available for Amazon Web Services, Azure or Synoptek Cloud. A detailed description of the Assess option is available in Appendix A.

2.2   PLAN

Second phase will provide a complete visual of the entire existing infrastructure. It automates the discovery of applications across physical, virtual, and cloud environments and assesses dependencies and cloud suitability for each, so you can prioritize applications for migration and efficiently build a roadmap to the cloud. A detailed description of the Plan option is available in Appendix B.

2.3   REVIEW

Final phase provides a Cloud Expert to review the reports with you assisting in understanding the data and recommendations. During that time, you will receive opinionated feedback based on what we feel is the best platform to move your targeted workload to. Synoptek will also identify applications that may require re-architecting before moving them to public cloud.

System/Workload Discovery	Assess
Right Sizing	Assess
Total Cost of Ownership (TCO) Projection	Assess
Multi-Cloud Cost comparison	Assess
Pricing Plan Optimization	Assess
Application Discovery	Plan
Application Dependency Visualization	Plan
Cloud Readiness- Suitability Analysis	Plan
Cloud Infrastructure Designer	Plan
Custom Migration Roadmap Builder	Plan
Deliverable Review	Review
Opinionated Perspective	Review

1. **Data Collection Template**
Synoptek will provide to the Customer at the project kick off. The form will allow the customer to provide the necessary IP information of each device that will be covered under this Professional Service.

2. **Data Collection Software Agent ("DCSA")**

Synoptek will gather information via the DCSA and securely pass to the SaaS engine for analysis and report creation. Services will gather the following:

System Information

► Processor Type

► Other details about the processor such as processor clock rate, processor family and processor number of cores, memory

► System board vendor and model

► Operating system

► System identification information

- DNS host name

- System domain

- System name

- System workgroup

- System part of domain

- VM Name

- MAC address(es)

- IP address(es)

- NIC type

- System status

  ▪ Last shutdown time

  ▪ Last boot up time

  ▪ Disk drives

  ▪ Interface type

  ▪ Manufacturer

  ▪ Serial number

  ▪ Description

  ▪ Disk name

System Performance Information

► CPU usage

► Memory usage

- ► Disk operations
- ► Network usage
- ► Cache usage

Process Information

- ► Program information
  - • Executable name
  - • Vendor Other information such as product name, description, URL
  - • Process performance information
    - ▪ CPU usage
    - ▪ Memory usage
    - ▪ Disk usage
    - ▪ Network usage
    - ▪ Application specific performance counters

Network Bandwidth Information

- ► Windows/Linux agents are approximately 5KB to 40KB per 10 minutes.

3. Exclusions

Any services, tasks or activities other than those specifically noted in this Service Schedule

4. Responsibilities

	Customer Contact	Synoptek Contact
Collaboration during execution of Service	X	X
Prior to the start of the services engagement, indicate to in writing, a person to be the single point of contact, according to project plan, to ensure that all tasks can be completed within the specified time period. All Services communications will be addressed to such point of contact. Failure to do so might result in an increase in scope and/or length in schedule.	X	
Provide technical points-of-contact, who have a working knowledge of the environment in scope for the Services. Synoptek may request that meetings be scheduled with Synoptek Contacts.	X	
Have the authority to act for Customer in all aspects of the Service including bringing issues to the attention of the appropriate persons within organization and resolving conflicting requirements.	X	

Task	Customer	Synoptek
Ensure that any communication between Customer and Synoptek, including any scope-related questions or requests, are made through the appropriate Synoptek Project Manager.	X	
Provide timely access to technical and business points of contact and required data/information for matters related to the scope of Service.	X	
Ensure attendance by key Customer contacts at Customer meetings and deliverable presentations.	X	
Obtain and provide project requirements, information, data, decisions and approvals within one working day of the request, unless both parties agree to a different response time.	X	
Take responsibility for developing or providing documentation, materials and assistance to Synoptek and agrees to do so in a timely manner. Synoptek shall not be responsible for any delays in completing its assigned tasks to the extent that they result from Customer's failure to provide such timely documentation, materials and assistance.	X	
Ensure the Services personnel have reasonable and safe access to the Project site, a safe working environment, an adequate office space, and parking as required.	X	
Inform Synoptek of all access issues and security measures, and provide access to all necessary hardware and facilities.	X	
Provide all hardware, software, internet access, and facilities for the successful completion of the Services.	X	
Provide access to the environment to install the DCSA.	X	
Provide outbound internet over Secure Socket Layer (SSL) 443 and Secure Shell (SSH) to transfer historical data; this can be via a proxy server to reduce outbound access.	X	
Complete a backup of all existing data, software and programs on all affected systems prior to and during the delivery of this Service. It is advised to make regular backup copies of the data stored on all affected systems as a precaution against possible failures, alterations, or loss of data.	X	
Monitor Data Collection Software Agent to ensure data is being received.		X
Correct Data Collection Software Agent problem if unresponsive.	X	X
Generate the necessary reports and deliverables for review and presentation		X

5. **Timeline**

   a. Project Kick Off

   b. Installation of DCSA

      ► Agent-less

1. VMWARE based environments (via vCenter read-only credentials)

2. Hyper-V environments (via DCSA installed on Hyper-V host)

► Agent based

3. Physical Windows / Linux machines

4. Virtual machines for detailed analytics

c. Monitoring

► Synoptek will monitor the DCSA to ensure that we are receiving the data. It is imperative that we do not have a long break in the collection of data. Should a DCSA stop sending data then Synoptek will contact the Customer Contact to investigate why the DCSA is unresponsive. Synoptek will assist in troubleshooting the DCSA, if required.

► Monitoring will start once all DCSA have been installed and Synoptek has confirmed that the DCSA are reporting into the SaaS platform. The monitoring will then run for at least two weeks.

d. Report Generation

► Hardware mapping

► Performance analysis

► Workload mapping

► Planning and forecasting

► Projection analysis

e. Migration Planning

► Identify security and firewall requirements

► Identify shadow IT

► Provide an application inventory

► Provide application dependency mapping

► Provide a cloud suitability analysis

► Provide a cloud readiness analysis

► Build an architecture diagram

► Provide an export of the data for future analysis

6. **Project Manager**

The Project Manager will serve as the single point of contact for delivering the Service, providing the following support:

► Establish and manage relationship with identified Customer contact.

► Proactively work with the operations team to identify opportunities for improving Customer experience with respect to the Services.

► Define key performance measures and periodically review them with Customer.

7. Exclusions

Following activities are not included in the Assess option:

► Project Planning of migration to public cloud.

► Migration of the actual workload to the public cloud.

► Optimization and management.

3	TERMS AND CONDITIONS

The insight, analysis, findings and recommendations produced from this Cloud Readiness Service consume significant labor from Synoptek's cloud experts. In return for the ample value that our customers receive from the Cloud Readiness Service, Synoptek always recovers its costs by invoicing the customer. Some customers of the Cloud Readiness Service continue their cloud transformation journey with Synoptek by purchasing Managed Cloud Service from Synoptek. For those customers that sign a service order for Synoptek's Managed Cloud Service, Synoptek then considers the costs for the Cloud Readiness Service as part of its cost of sale, and rescinds its invoice for the Cloud Readiness Service. For Synoptek to rescind the Cloud Readiness Assessment invoice, the customer must perform the following:

Sign and return a Service Order for Synoptek's Managed Cloud Service prior to the due date on Synoptek's invoice for Cloud Readiness Service, subject to:
* A term of at least 12 months
* A service effective date no later than 90 days from the date of the Service Order
* A minimum monthly fee of no less 25% of Synoptek's entire invoice amount for Cloud Readiness Assessment

APPENDIX A – ASSESS

This phase will enable customers to evaluate costs for public cloud for the specific workload / environment being analyzed. The features of this service option are:

► **Cloud Comparison:** Compare TCO across various cloud platforms to clearly see how much migrating to each will cost and potential savings your organization could make based on your current application workload. Helping customers make an informed decision on which public cloud provider is the best fit and aid them in making the business case for moving to the cloud.

► **Cost Breakdown:** Gain deep visibility into your cloud TCO. Break down projected costs by compute, storage, and network within both your physical and virtual infrastructure, and drill down to individual machines to understand costs at a micro level.

► **Performance Analysis:** Receive a detailed performance analysis on compute, storage, and network resources based on observed peak CPU utilization, allocated and peak RAM usage, storage capacity, occupancy, Input/Output Operations Per Second (IOPS), and more. Drill down to the node level to see granular data displayed graphically.

► **Hardware Mapping:** Based on one-to-one hardware mapping, accurately project the cost of moving your infrastructure to the cloud using a "lift and shift" approach.

► **Workload Mapping:** Right-size instances based on comprehensive system-level data analysis (such as peak CPU, memory, IOPS, and network usage) and quickly and accurately identify the best cloud configuration for optimal performance at the lowest possible cost.

► **Planning and Forecasting:** Run "what if" scenarios by changing regions, pricing plans, discounting levels, instance types, instance families, and performance thresholds so that you can right-size your infrastructure based on your performance target.

► **Pricing Plans:** Find additional cost savings by determining the ideal pricing packages based on your usage profile.

► **Projection Analysis:** Receive a projected performance analysis on compute, storage, and network resources based on your current observed performance. View a graphic, which can be drilled down to the node level that shows your current performance vs. your performance with your recommended cloud configuration.

► **Reports:** Generate TCO reports based on various mapping options and export all graphs and charts as images and spreadsheets

APPENDIX B – PLAN

This phase will enable customers to plan the migration of their workloads to a public cloud within scope. The features of this phase are:

► Migration Designer: Group applications based on their dependencies, business uses, migration phases, and more.

► Topology Viewer: Graphically visualize your group applications and their dependencies.

► Application Inventory: Automatically inventory all of your applications and choose which applications are to be considered with inventory settings.

► Infrastructure Inventory and Summary: View all nodes within the environment based on user-created groups. View application inventory and dependency details, by group or individual machines, which include inbound firewall rules, client app DNS, CPU usage by application and TCO to migrate.

► Application Grouping: Group your servers based on business applications and affinity mapping.

► Application Dependency Mapping: Map application dependencies and zoom in on individual dependencies to view details on all processes, such as executable names, application names and descriptions, vendor information wikis, and more to ensure a seamless migration.

► Shadow IT: Find potential shadow IT by identifying dependencies going to IP addresses within your environment that are out of project scope.

► Firewall Rules: View firewall rules for /8, /16, and /32 IP address ranges based on your application communication and build your security policies in the cloud.

► Cloud Suitability Analysis: Capture an application's cloud compatibility and efficiency gain based on workload characteristics and unique options available in the cloud to identify which applications should be moved to the cloud vs. remain on-premises.

► Cloud Readiness Analysis: Determine an application's readiness to run in the cloud based on application dependency mapping, platform portability, and application complexity.

► Export Data: Download summary reports for all groups/applications, which detail IP addresses, dependencies, DNS, firewall rules, migration costs, and more.

► Export Architecture Diagram: Build your architecture diagram and export it into Scalable Vector Graphics (SVG) format to edit for your final configuration.

Synoptek will monitor the Customer's application workload data collection before assisting Customer in determining their optimal cloud strategy, The Service will help build an understanding of current workloads and their performance profiles in the existing physical or virtual infrastructure and will collect historical utilization data for the metrics that are relevant to application migration.

The Service will assist the Customer in understanding the optimal cloud environment. The Service will determine the optimal cloud configuration and show reports to the Customer to help understand the related cost based on the Customer's current application workload profiles. The Service will aim to find additional cost savings by determining the ideal pricing packages based on the Customer's usage patterns and discount agreements such as a Microsoft Enterprise Agreement (EA).

Synoptek will run analysis to support multiple scenarios, Synoptek will run interactive what-if scenarios with parameters including pricing plans, availability zones, usage growth, and performance settings such as usage targets, load growth, and instance size to determine the true cost of cloud adoption.

During a 2-week span, Synoptek will collect thousands of data points daily per workload allowing Synoptek to best assess the customer's infrastructure cloud requirements.