NODE4

Cloud Support Services Overview

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Node4 Limited

PUBLIC

Document Control

This document will be updated as service features are under continuous development.

Prepared by	Amendments	Revision	Date
A Slater / P Springfield	Draft	1	23/8/2024
A Slater / P Springfield	Added Product SKUs	2	30/8/2024
A Slater / P Springfield	Update Virtual Machine supported Operating Systems	3	4/11/2024
A Slater / P Springfield	Revised Applications, Runtime & Middleware list	4	22/1/2025
A Slater / P Springfield	Revised supported application list	5	7/2/2025
A Slater / P Springfield	Revised Managed support level definition	6	28/2/2025
A Slater / P Springfield	Added HA Proxy to supported applications	7	9/4/2025

Contents

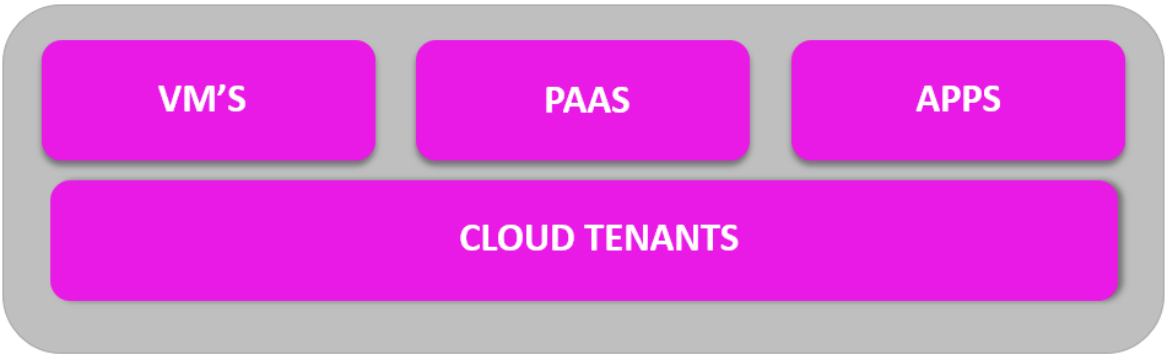
Service Overview

Node4's Cloud Support Services are designed for organisations that need a trusted partner to drive maximum value from their Cloud Services. Our team of experts work alongside our customers, providing a flexible service capability that covers everything from server patching, backup and monitoring to advanced DevOps and Cloud Optimisation Services.

Enabling Hybrid Cloud with a unified support model

73% of organisations now operate a hybrid cloud model, with 51% of workloads in Public Cloud (Flexera, 2024 State of the Cloud report). A key part of an effective Hybrid Cloud strategy is a common operating model across platforms and Node4's Cloud Support Services offer a single support approach covering workloads on both the Public Cloud and Data Centre services.

The services are built from supporting one or many different cloud tenants (such as Azure or our own VMware IaaS platform, VDC) then Node4 can take on support responsibilities for Virtual Machines, PaaS (Platform as a Service) Services and Applications. As applications have growing dependencies across cloud platforms and technologies, centralised monitoring and enabling rapid issue detection and resolution is becoming more complex.



Note: Databases and Data Platforms are covered by Data Support Services.

Service Levels

Node4 Cloud Support Services are available in three service levels, namely Maintained, Monitored and Managed.

Maintained
Maintained support is designed for customers who need minimal day to day support from Node4 either because they are yet to deploy production services or have considerable experience and resources in house. Maintained provides 24x7x365 Break Fix support and issue escalation to the vendor if appropriate and available.

Monitored
The Monitored level of support contains all the benefits of Maintained but is a proactive service where Node4 monitor the service health of the supported system(s). Monitored allows our engineers to stay on the front foot of identifying and resolving issues. The monitoring tools also provides a wealth of data to support root cause analysis, minimising the time to resolution of issues.

Managed
Managed provides the features of Monitored but allows our engineers to be more empowered by making changes to the supported system configuration and handling service requests from our clients. Our Managed Service team take on more responsibilities supporting the day-to-day operations of a wide range of technologies and handling additional tasks such a patching and backup management.

Table: Feature comparison of Cloud Support Service Options				
Features	**Maintain**	**Monitored**	**Managed**	**Add-On**
Cloud Tenants				
24x7x365 Break Fix Support	▪	▪	▪	
Vendor Escalation	▪	▪	▪	
Service Health Monitoring		▪	▪	
Request Fulfilment			▪	
Cloud Cost Optimisation				▪
Threat Detect (SOC & SIEM)				▪
Service Delivery Manager				▪
Operability Improvement				▪
Infrastructure as Code management				▪
Virtual Machines				
24x7x365 Break Fix Support	▪	▪	▪	
Vendor Escalation	▪	▪	▪	
Service Health Monitoring		▪	▪	
Request Fulfilment			▪	
Patch Management (OS)			▪	
Backup Management			▪	
Disaster Recovery Management				▪
Database Management (DBA)				▪
PaaS Services				
24x7x365 Break Fix Support	▪	▪	▪	
Vendor Escalation	▪	▪	▪	
Service Health Monitoring		▪	▪	
Request Fulfilment			▪	
Applications				
24x7x365 Break Fix Support		▪	▪	
Service Health Monitoring		▪	▪	
Request Fulfilment			▪	

Cloud Tenancies

Node4 cover a range of platforms including Microsoft Azure, Virtual Data Centre and VMware Private cloud. The cloud tenancy support covers the core scaffolding of the platform supporting the below listed components.

Table: Supported Tenant Components	
Virtual Data Centre	**Microsoft Azure**
• Nexus • Virtual Networking • Edge Gateway • Authentication (Tenant) • Access Control (Tenant) • S2S VPN (VDC) • Load Balancing (VDC) • Firewall (VDC) • Billing • VM Templates	• Azure Advisor • Virtual Networking • Cost Management • Azure Quotas • Management Groups • Subscriptions • Reservations
Tiering	
Tier 1 - up to 2 Edge Gateways Tier 2 - 3 - 5 Edge Gateways Tier 3 - > 5 Edge Gateways	Tier 1 – 1 Region Tier 2 – 2 Regions Tier 3 - 3+ Regions

Virtual Machines

Virtual Machine support includes the Operating System and ancillary services covering a wide range of technologies. Our support policy only allows for patching of the Operating System and vendor issue escalation only where the version is under active support by the vendor.

Table: Supported Virtual Machine Components	
Operating Systems	
• Windows Server 2022 • Windows Server 2019 • Windows Server 2016 • Windows Server 2012 R2 * • Windows Server 2012 * • Windows Server 2008 R2 * • Windows Server 2008 * • Microsoft Windows 10 * • Microsoft Windows 11 * • Alma Linux 8.3 - 8.10 • Alma Linux 9.0 - 9.5 • CentOS 6 (64-bit) *	• CentOS 8 (64-bit) * • Oracle Linux 7 (64-bit) ** • Oracle Linux 8 (64-bit) ** • Red Hat Enterprise Linux 7 (64-bit) ** • Red Hat Enterprise Linux 8 (64-bit) • Red Hat Enterprise Linux 9 (64-bit) • Ubuntu Linux (64-bit / LTS only) • SUSE Linux Enterprise 11 (64-bit) ** • SUSE Linux Enterprise 12 (64-bit) * Monitored Only ** No OS support available

- CentOS 7 (64-bit) *

Supported Backup Services	Supported Disaster Recovery Services

• VDC Backup Service
  ○ Veeam (VDC Native only)
  ○ Commvault (VDC Native only)
• Azure Backup Service
	• VDC Site Recovery (VCDA)
	• Azure Site Recovery

PaaS Services

Node4 cover many Microsoft Azure PaaS services, which typically form part of a managed solution for a client.

Table: Supported PaaS Services	
Azure PaaS Services	
• Analysis Services * • API Management * • App Service • Application Gateway • Azure Database for MariaDB * • Azure Database for MySQL * • Azure Database of PostgreSQL * • Azure Firewall • Azure Load Balancer • Azure Redis Cache * • Azure Site Recovery • Azure SQL Database • Azure SQL Managed Instance • Azure Virtual Desktop • Bastion • Batch * • Cognitive Search * • Cosmos DB * • Data Factory *	• Data Lake Analytics * • Data Lake Storage * • Databricks * • Event Grid * • Event Hub * • Express Route • Front Door Service • Functions * • IoT Hub * • Key Vault • Kubernetes Service (AKS) * • Logic Apps • Service Bus * • Storage Account • Synapse Analytics * • Traffic Manager * Maintained & Monitored Only ** Maintained Only

Applications, Runtimes & Middleware

Node4 also supports a range of other Software from Virtual Desktops and Web Servers to runtimes and containerisation.

Table: Supported Services
Applications, Runtimes & Middleware
• Remote Desktop Services • Active Directory • AD Federation Services ** • NFS Management • Internet Information Server (IIS) * • Apache • NGINX • Docker * • HAProxy * Monitored Only

Data Services

Please see the Data Support Schedule for a DBA lead Managed Service covering technologies such as SQL Server, Oracle, MySQL and Couchbase.

Service Features

24x7x365 Break Fix Support

The Node4 Managed Service team operate a UK manned Service Desk, available 24x7 to handle business critical issues. With over 20 years of experience supporting our clients, we are experts in supporting cloud environments and resolving issues in a timely and efficient manner.

Incident Management

Node4 operate a mature event and Incident Management methodology to sustain our solutions, enabling detection and management of issues. All service Incident lifecycle information can be viewed and tracked via our ServiceNow portal.

Events and Incidents are categorised by Impact Severity as follows:

Severity	Description
Level 1 - Critical	A major fault resulting in total loss of service.
Level 2 - High	A major fault resulting in a severe service degradation or loss of service to a significant percentage of users.
Level 3 - Medium	A minor fault resulting in a limited or degraded service or a single end user fault.
Level 4 - Low	General, non-service affecting support. This includes installation support.
Level 5 - Change Request	Level 5 should be used for requesting a change to an existing service or system.

Events and Incidents are handled under the following SLA:

Action	P1	P2	P3	P4	P5
Faults & Technical Query Acknowledgement	0.5	1 Hr	2 Hrs	4 Hrs	12 Hours
Remediation Actions Commence	1 Hr	2 Hrs	4 Hrs	-	-
Frequency of updates	1 Hr	2 Hrs	12 hours if Target to Fix is exceeded		
Target to resolve	4 Hrs	8 Hrs	12 Hrs	36 Hrs	60 Hrs

Note: Remediation actions may include escalation to Microsoft for Azure Service issues. Vendor escalation is only applicable whereby a client uses Node4 for the licensing or subscription which includes an associated escalation agreement such as Microsoft Azure. Vendor escalation for non-Microsoft or VMware technologies is only available with prior approval.

Service Health Monitoring

The Node4 Intelligent monitoring solution allows for continuous monitoring of the Cloud environment & supporting services. The fully pro-active solution ensures that the environment remains optimised and that any issues can be identified, and appropriate action taken prior to the issues becoming business critical.

The monitoring services will be configured to automatically alert Node4 when any thresholds are breached thus offering a preventative support management service. The monitoring solution also allows for effective remote remedial action to be taken as all administration tasks can be delivered with speed and efficiency. Node4 will then remediate the supported services based on the alerts received to ensure the systems always remain optimised.

Monitoring services will be configured to alert Node4 in-line with the requested SLAs for the supported components within the customer environment. The assessment of what SLA is applicable to the various instances will form part of the initial familiarisation work.

Request Fulfilment

The Request Fulfillment service module allows our customers to request service changes. Authorised users from a client can log a request via the support portal for a range of actions that have been agreed as part of service delivery. Examples of standard changes would be:

- Amend the configuration of a cloud service (e.g. add a new rule)
- Reboot a Virtual Machine
- Change/ add/ remove storage
- Perform an ad-hoc back up
- Verify a replication task
- Apply a reservation
- Create or amend a subscription

A standard Request is a routine change that can be completed within 30 minutes by a Node4 Cloud Support Engineer and there are up to a maximum of 3 requests per supported instance per month included in the standard pricing.

Node4 are also able to offer support for Change Management through our Service Deliver Manager Add-On. The SDM will co-ordinate with the Change Approval Board to ensure changes are risk assessed and perform appropriate diligence through the change lifecycle.

Patch Management

The patching module is fundamental to achieving a secure and stable platform. With emergency patching to address security vulnerabilities being delivered via the Event & Incident Management service.

As part of the service Node4 will offer monthly maintenance windows for the servers to be added, by default all Critical and Important patches released that month will be installed and the servers automatically rebooted for the installation of the patches to complete.

As part of the on-boarding process the customer will be required to identify and confirm the automatic schedule preferred for each server using the data capture form provided.

The patching process consists of the update being downloaded ahead of time. At the designated time scheduled the updates will install and the server(s) automatically reboot to complete the installation. Note: Patching Management is specific to the supported Operating System and doesn't include patches for applications or other 3rd party technologies.

Backup Management

Node4 will provide a backup management service to maintain and improve the existing process where required. The service will handle any backup failures via the event/incident management process and any requests under the request fulfilment process.

The following services will be utilised:

- Azure Virtual Machines: Azure Backup
- VDC Virtual Machines: Veeam or Commvault

Example Retention Policy:

- Daily Backups – 7 Day Retention
- Weekly Backup Point – 4 Week Retention
- Monthly Backup Point – 12 Months
- Yearly Backup Point – 1 Year

Additional Services

Disaster Recovery Management

Disaster Recovery Management is designed to ensure replication workloads are in place, operating and robust. The service provides 24x7 monitoring and support of the server replications and the ability to make service requests for configuration changes such as replication frequency. In the event of a Disaster event which requires failover, Node4 engineers will support the failover bringing the replicated Virtual Machines back online in the secondary region.

To create a complete Disaster Recovery Management service the client will require to order two things:

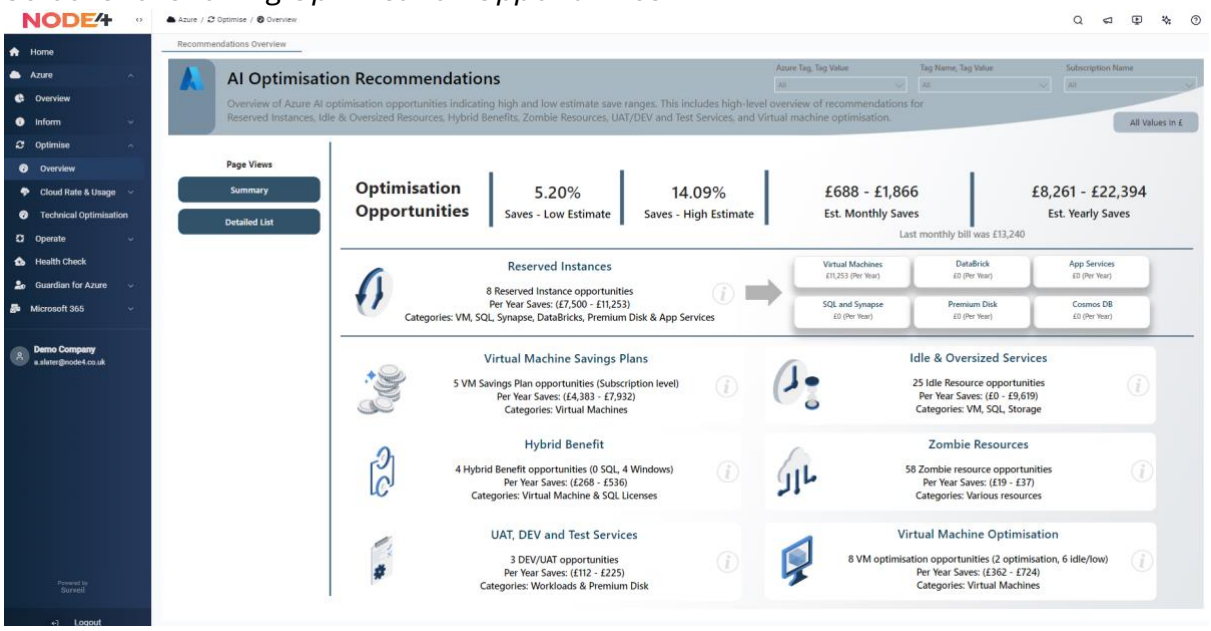
- This service to maintain the replication jobs and provide engineering support for a real-world DR event; and
- A Disaster Recovery Service Consulting pack which covers the service build, a documented disaster recovery plan, run books covering any activities required to execute a failover and allocated consulting time to test the DR plan at least once for year.

Please note that the Disaster Recovery Consulting Pack is an additional charge to the support service and a mandatory requirement for any Node4 involvement other than failing over a Virtual Machine from a replication job, into a suitably configured environment.

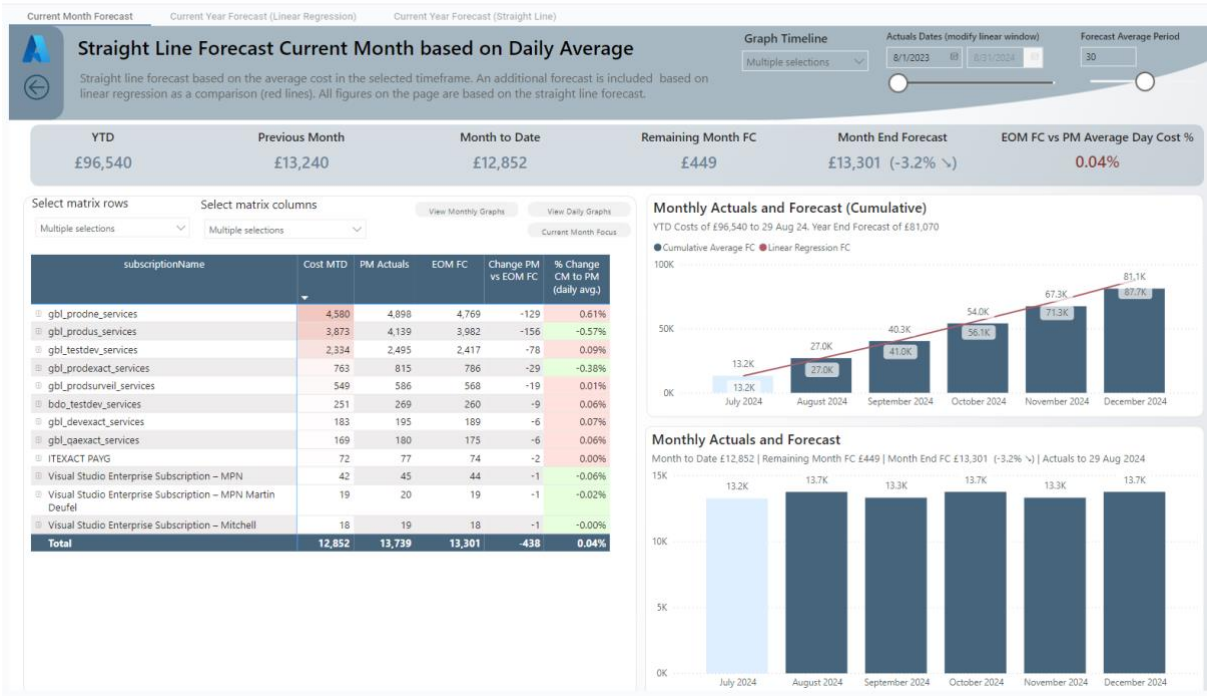
Cloud Cost Optimisation Platform (Azure)

Node4 will provide access to our Billing Analytics Platform which provides customers with a wealth of information on Azure best practices including Cost Management, Right Sizing and Security Advisories. This analytics platform will continually review your deployment and feedback vital information to the management teams. This service can also integrate into the Node4 Service Desk team triggering and triaging alerts on spend threshold breaches and new advisories.

Screenshot showing Optimisation Opportunities



Screenshot showing one of the forecasting dashboards



Database Management

The Database Management service is a chargeable service which lets you tap the power of a team of experienced DBAs and next generation tools allowing you to meet your strategic business goals without the frustration, cost, and time of managing the day-to-day maintenance yourself.

Operating 24x7, our multi-vendor DataOps team is aligned to your business ensuring that your databases remain healthy and optimised. The Node4 DataOps team are available to support the following technologies:

- SQL Server
- Oracle
- MySQL
- Couchbase
- Azure SQL

The Database Management service contains database aligned service capability for the following modules:

- 24x7 Monitoring using specialist DBA tools
- Incident & Event Management
- Request Fulfilment (DBA specific tasks)
- Back Up Management using our best practice scripts to offer granular data recovery points
- Patch Management on a quarterly schedule
- Performance Tuning

Threat Detect

Threat Detect is Node4's managed SIEM service - Security Information and Event Management (SIEM), with event and alert triage all overseen by our Security Operations Team. With Threat Detect and Node4's honed insights into the threat landscape your IT estate, critical assets, data, and infrastructure benefit from 24/7 alerting and once configured to match your organisational risk, can forewarn of likely cyberattacks – we'll triage our intel so that you know when to act and when you can focus on running your business.

Our approach uses clients existing Microsoft Sentinel subscription to offer a managed SIEM with outputs fed directly to Node4's Security Operations Team. With Node4 focused on managing the SIEM platform, surfacing and prioritising the likely risks, your own internal cyber security expert can focus on the particular risk to your business and its mitigation.

Lean into our expert team of cyber analysts who keep their skills and insights honed through regular training, professional development, and a proven track-record of improving the security posture of many Node4 clients. By supporting Node4's wide and

diverse clientele and running numerous managed security services they are highly effective experts in triaging high volumes of events and alerts. Tailored, and tuned to the likely risks and concerns of your business, our analysts can separate out the important actions and tasks that your team must focus on first.

We'll check in with you regularly and offer supporting advice on security best practice. Node4 has a wide net of detection capabilities to support a robust and proactive defence of your environment against known attacks. Continuous improvement our defensive capabilities, experience and knowledge base ensures a high level of deterrence before the fact and minimisation of the threat arising from new and novel attack vectors.

Service Delivery Manager (SDM)

The Node4 SDM service provides a nominated Service Delivery Manager to the customer account. The SDM is used for clients whereby there is a need for enhanced reporting and service governance or there is a complex agreement incorporating multiple service towers.

The SDM role encompasses:

- Point of management escalation for:
  - P1 Incidents
  - Change Management
  - Problem Management
- Service Reviews and Service Reports
- Creating an agreed Communications Plan with the customer
- Creating and issuing of Service reports in a timely manner
- Conducting (Chairing) regular Service Review meetings in accordance with the Communications Plan
- Recording Service Review meeting minutes, documenting agreed actions and owners
- Continuous Service Improvement Process / Plan (CSIP) and being the owner of the Service Improvement Plan for Node4.

Operability Improvement *(Monthly Consulting Allowance)*

Operability of the system must be treated as a "first class" priority and a shared responsibility between the Node4 and the customer development teams.

Operability Improvement will be focussed on improving the following areas at both the Application and Infrastructure levels.

- Availability
- Performance
- Scalability
- Security
- Recoverability
- Business Continuity

- Deployment
- Monitoring
- Logging & Metrics

Infrastructure as Code (IaC) Management *(Monthly Consulting Allowance)*

An IaC model is our preferred default for customers and the Node4 DevOps team will lead on the management and definition of the IaC scripts however, via the release management process the customer will be able to make configuration changes and contribute in-life.

Our DevOps team will leverage services within the platform and typically use a combination of Terraform, Ansible and Bicep to build new automated workflows.

Appendix A – Product SKUs

SKUs	
CSS-MAI-TENANT-AZURE-T1	Cloud Support Service - Maintained - Azure Tenant - Tier 1
CSS-MAI-TENANT-AZURE-T2	Cloud Support Service - Maintained - Azure Tenant - Tier 2
CSS-MAI-TENANT-AZURE-T3	Cloud Support Service - Maintained - Azure Tenant - Tier 3
CSS-MON-TENANT-AZURE-T1	Cloud Support Service - Monitored - Azure Tenant - Tier 1
CSS-MON-TENANT-AZURE-T2	Cloud Support Service - Monitored - Azure Tenant - Tier 2
CSS-MON-TENANT-AZURE-T3	Cloud Support Service - Monitored - Azure Tenant - Tier 3
CSS-MAN-TENANT-AZURE-T1	Cloud Support Service - Managed - Azure Tenant - Tier 1
CSS-MAN-TENANT-AZURE-T2	Cloud Support Service - Managed - Azure Tenant - Tier 2
CSS-MAN-TENANT-AZURE-T3	Cloud Support Service - Managed - Azure Tenant - Tier 3
CSS-MAI-TENANT-AZUREHYBRID-T1	Cloud Support Service - Maintained - Azure Hybrid Tenant - Tier 1
CSS-MAI-TENANT-AZUREHYBRID-T2	Cloud Support Service - Maintained - Azure Hybrid Tenant - Tier 2
CSS-MAI-TENANT-AZUREHYBRID-T3	Cloud Support Service - Maintained - Azure Hybrid Tenant - Tier 3
CSS-MON-TENANT-AZUREHYBRID-T1	Cloud Support Service - Monitored - Azure Hybrid Tenant - Tier 1
CSS-MON-TENANT-AZUREHYBRID-T2	Cloud Support Service - Monitored - Azure Hybrid Tenant - Tier 2
CSS-MON-TENANT-AZUREHYBRID-T3	Cloud Support Service - Monitored - Azure Hybrid Tenant - Tier 3
CSS-MAN-TENANT-AZUREHYBRID-T1	Cloud Support Service - Managed - Azure Hybrid Tenant - Tier 1
CSS-MAN-TENANT-AZUREHYBRID-T2	Cloud Support Service - Managed - Azure Hybrid Tenant - Tier 2
CSS-MAN-TENANT-AZUREHYBRID-T3	Cloud Support Service - Managed - Azure Hybrid Tenant - Tier 3
CSS-MAI-TENANT-VDC-T1	Cloud Support Service - Maintained - VDC Tenant - Tier 1
CSS-MAI-TENANT-VDC-T2	Cloud Support Service - Maintained - VDC Tenant - Tier 2
CSS-MAI-TENANT-VDC-T3	Cloud Support Service - Maintained - VDC Tenant - Tier 3
CSS-MON-TENANT-VDC-T1	Cloud Support Service - Monitored - VDC Tenant - Tier 1
CSS-MON-TENANT-VDC-T2	Cloud Support Service - Monitored - VDC Tenant - Tier 2
CSS-MON-TENANT-VDC-T3	Cloud Support Service - Monitored - VDC Tenant - Tier 3
CSS-MAN-TENANT-VDC-T1	Cloud Support Service - Managed - VDC Tenant - Tier 1
CSS-MAN-TENANT-VDC-T2	Cloud Support Service - Managed - VDC Tenant - Tier 2
CSS-MAN-TENANT-VDC-T3	Cloud Support Service - Managed - VDC Tenant - Tier 3
CSS-MAI-VM-WIN	Cloud Support Service - Maintained - Virtual Machine - Windows
CSS-MAI-VM-LIN	Cloud Support Service - Maintained - Virtual Machine - Linux
CSS-MON-VM-WIN	Cloud Support Service - Monitored - Virtual Machine - Windows
CSS-MON-VM-LIN	Cloud Support Service - Monitored - Virtual Machine - Linux

CSS-MAN-VM-WIN	Cloud Support Service - Managed - Virtual Machine - Windows
CSS-MAN-VM-LIN	Cloud Support Service - Managed - Virtual Machine - Linux
CSS-MAIN-PAAS-T1	Cloud Support Service - Maintained - PaaS - Tier 1
CSS-MAIN-PAAS-T2	Cloud Support Service - Maintained - PaaS - Tier 2
CSS-MAIN-PAAS-T3	Cloud Support Service - Maintained - PaaS - Tier 3
CSS-MON-PAAS-T1	Cloud Support Service - Monitored - PaaS - Tier 1
CSS-MON-PAAS-T2	Cloud Support Service - Monitored - PaaS - Tier 2
CSS-MON-PAAS-T3	Cloud Support Service - Monitored - PaaS - Tier 3
CSS-MAN-PAAS-T1	Cloud Support Service - Managed - PaaS - Tier 1
CSS-MAN-PAAS-T2	Cloud Support Service - Managed - PaaS - Tier 2
CSS-MAN-PAAS-T3	Cloud Support Service - Managed - PaaS - Tier 3
CSS-MON-APPS-T1	Cloud Support Service - Monitored - APPS - Tier 1
CSS-MON-APPS-T2	Cloud Support Service - Monitored - APPS - Tier 2
CSS-MON-APPS-T3	Cloud Support Service - Monitored - APPS - Tier 3
CSS-MAN-APPS-T1	Cloud Support Service - Managed - APPS - Tier 1
CSS-MAN-APPS-T2	Cloud Support Service - Managed - APPS - Tier 2
CSS-MAN-APPS-T3	Cloud Support Service - Managed - APPS - Tier 3