

# Introduction

Foehn provides tailor made support services that manage infrastructure throughout its lifecycle in a fashion that aligns to our Customer's business needs. The services are devised from a deep understanding of the economic and skills challenges faced by organizations to maintain fit for purpose systems. To enable this vision Foehn brings highly adept technical and management skills honed from a decade of supporting critical systems servicing many thousands of users in internationally diverse locations.

Foehn's support services are organized around the following portfolio. Depending on the customer's preferred financial model the portfolio can be offered in either the context of Foehn operating a "managed service" (i.e. where entitlement to the equipment constituting the platforms is owned by Foehn for the duration of the contract) or the customer themselves owns the equipment.



The following characterizes the 3 levels of support service that Foehn provides:

- maintain** A reactive service that provides trouble-shooting, "break-fix" maintenance, Service Desk, service delivery management and quarterly review. The support cover is tuned to the demanded service level responses times and operating hours.
- operate** All features of above service, plus a designated number of agreed Moves, Additions, Changes and Deletes (MACDs) per month and pro-active infrastructure management through application health checking, threshold monitoring, outage reporting and escalation management. Foehn take full responsibility for incident resolution when systems fail and endeavor to find and commence remedying the fault ahead of the end users noticing.
- optimise** All of the features of the above, plus ongoing management to attain the optimum level of availability, security and performance. Includes capacity trend analysis and remediation to optimise the system throughout its lifecycle through inbuilt cover for system changes beyond the system's original signed off design. The service is capped by quarterly consultations from a Foehn Managing Consultant to correlate service trends and propose augmentations for business advantage. This service level is applicable to business critical systems sitting within dynamic companies with frequent business change.

# Service Deliverables

The following defines the opt in services found within each service level and financial model.

Support Model	Customer Owned Equipment			Foehn Managed Service	
	Maintain	Operate	Optimise	Operate	Optimise
8 x 5 Onsite Full Time Dedicated Support	✓	✓	✓	✓	✓
24 x 7 Onsite Full Time Dedicated Support	✓	✓	✓	✓	✓
8 x 5 Remote Support Team	✓	✓	✓	✓	✓
24 x 7 Remote Support Team	✓	✓	✓	✓	✓
8 x 5 x 4 Engineer to Site	✓	✓	✓	✓	✓
8 x 5 x Next Business Day Engineer to Site	✓	✓	✓	✓	✓
24 x 7 x 4 Engineer to Site	✓	✓	✓	✓	✓
24 x 7 x Next Business Day Engineer to Site	✓	✓	✓	✓	✓

Contract Management	Customer Owned Equipment			Foehn Managed Service	
	Maintain	Operate	Optimise	Operate	Optimise
Asset Management	NA	NA	NA	✓	✓
Additional 3 <sup>rd</sup> Party Invoice Management	NA	NA	NA	✓	✓
Additional 3 <sup>rd</sup> Party Contract Management	NA	NA	NA	✓	✓
License Subscription	NA	NA	NA	✓	✓
SSL Certificate Management	NA	✓	✓	✓	✓
Access to IOS patches and software upgrades	NA	NA	NA	✓	✓
Vendor and TAC support & escalation	✓	✓	✓	✓	✓

Configuration Management	Customer Owned Equipment			Foehn Managed Service	
	Maintain	Operate	Optimise	Operate	Optimise
Configuration Management through a Foehn owned 'Site Manual' or 'As Built document'	NA	✓	✓	✓	✓
Appliance Configuration Backup & Restoration	NA	✓	✓	✓	✓
Server Platform Backup & Restoration	NA	NA	✓	✓	✓
Offsite data storage	NA	NA	✓	✓	✓

Change Management	Customer Owned Equipment	Foehn Managed Service
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	Maintain	Operate	Optimise	Operate	Optimise
Standard MACD's (Moves, Adds, Changes and Deletes)	NA	✓ Unlimited	✓ Unlimited	✓ Unlimited	✓ Unlimited
Inbuilt Non Standard Changes to commissioned Design	NA	NA	✓ Unlimited	NA	✓ Unlimited
Platform Q&A and Peripheral System Change Impact Analysis	NA	✓	✓	✓	✓
Regular Application of Patches / Hot fixes for ongoing best practice maintenance	NA	NA	✓	✓	✓
Vendor software release captive Lab testing	NA	NA	✓	✓	✓

Incident Management	Customer Owned Equipment			Foehn Managed Service	
	Maintain	Operate	Optimise	Operate	Optimise
Incident Problem Management	✓	✓	✓	✓	✓
Event Alerting	NA	✓	✓	✓	✓
Escalation Management	✓	✓	✓	✓	✓
Notification Management	NA	NA	✓	NA	✓

Spares to Site	Customer Owned Equipment			Foehn Managed Service	
	Maintain	Operate	Optimise	Operate	Optimise
8 x 5 x 4 Spares to Site	✓	✓	✓	✓	✓
8 x 5 x Next Business Day Spares to Site	✓	✓	✓	✓	✓
24 x 7 x 4 Spares to Site	✓	✓	✓	✓	✓
24 x 7 x Next Business Day Spares to Site	✓	✓	✓	✓	✓
Onsite sparing	✓	✓	✓	✓	✓
Shipping, tax and import support	✓	✓	✓	✓	✓

Service Desk	Customer Owned Equipment			Foehn Managed Service	
	Maintain	Operate	Optimise	Operate	Optimise
8 x 5 Service Desk Access	✓	✓	✓	✓	✓
24 x 7 Service Desk Access	✓	✓	✓	✓	✓
Unlimited support tickets	✓	✓	✓	✓	✓
Service Call Review	✓	✓	✓	✓	✓
Managed Device Information	NA	✓	✓	NA	✓
Historical System Events Reporter	NA	✓	✓	✓	✓
Real-time Availability Reporting	NA	✓	✓	✓	✓
Online Support Portal Access	NA	✓	✓	✓	✓

Service Delivery Management	Customer Owned Equipment	Foehn Managed Service
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	Maintain	Operate	Optimise	Operate	Optimise
SLA's	✓	✓	✓	✓	✓
Service Level Reporting	✓	✓	✓	✓	✓
Service Availability Reporting	NA	✓	✓	✓	✓
Service Credits	✓	✓	✓	✓	✓
Vendor Software Release Notifications	NA	✓	✓	✓	✓
Quarterly Service Review	✓	✓	✓	✓	✓
Monthly Service Review	✓	✓	✓	✓	✓
Managing Consultant Review & Leader (Availability, Performance and Security)	NA	NA	✓	NA	✓

Threshold Management	Customer Owned Equipment			Foehn Managed Service	
	Maintain	Operate	Optimise	Operate	Optimise
Device Health Status	NA	✓	✓	✓	✓
Application Health Status	NA	✓	✓	✓	✓
Quality of Service Status	NA	NA	✓	NA	✓
Critical Threshold Status	NA	✓	✓	✓	✓
Alarm Monitoring	NA	✓	✓	✓	✓
Online Support Portal Availability Reporting	NA	✓	✓	✓	✓

Performance Management	Customer Owned Equipment			Foehn Managed Service	
	Maintain	Operate	Optimise	Operate	Optimise
Detailed Performance reporting	NA	NA	✓	NA	✓
Long Term Trend Reporting	NA	NA	✓	NA	✓
Performance Optimization	NA	NA	✓	NA	✓
Capacity Management	NA	NA	✓	✓	✓
Performance Problem Management	NA	NA	✓	NA	✓

Security Management	Customer Owned Equipment			Foehn Managed Service	
	Maintain	Operate	Optimise	Operate	Optimise
Security Breach Alerting	NA	NA	✓	NA	✓
Tactical Security Response Team	NA	NA	✓	NA	✓
Critical Vendor/Product Security Vulnerability Alerting	NA	✓	✓	✓	✓
Application fixes to remedy critical security vulnerabilities	NA	✓	✓	✓	✓
Continuous Security Vulnerability Assessment	NA	NA	✓	☒	✓
Periodic Security Vulnerability Assessment	NA	NA	✓	☒	✓

## Appendix A: Service Description Guide

The following provides a definition of the full range of Foehn support service deliverables:

Support Model	Description
8 x 5 Onsite Full Time Dedicated Support	With this option Foehn deploys a full time or a part time resource to work from the supported location on an ongoing basis during normal working hours (09:00 – 17:30 - UK time - Monday to Friday excluding UK bank holidays), essentially acting as in-house resource. Foehn can compliment this service with remote support to provide an economic means to attain 24 x 7 coverage. However, in exceptional circumstances Foehn will work outside of normal working hours to fix specific matters than cannot be dealt with during the daytime.
24 x 7 Onsite Full Time Dedicated Support	With this option Foehn deploys a Team working full time to work from the supported location on an ongoing basis 24 x 7, essentially acting as in-house support department for critical systems.
8 x 5 Remote Support Team	With this option Foehn supports the platform remotely through the diagnostic, problem management and fix cycle. When on-site activity is needed for physical activities engineers will travel to site. Activities are restricted to normal working hours (defined as 09:00 – 17:30 - UK time - Monday to Friday excluding UK bank holidays). However, in exceptional circumstances Foehn will work outside of normal working hours to fix specific matters than cannot be dealt with during the daytime.
24 x 7 Remote Support Team	With this option Foehn supports the platform remotely through the diagnostic, problem management and fix cycle 24 x 7. When on-site activity is needed for physical activities engineers will travel to site, again this activity is limited to standard working hours. This support model is favored for 24 x 7 critical business systems.
8 x 5 x 4 Engineer to Site	This is an SLA option which dictates that when on site presence is required (typically to deal with a hardware failure) a Foehn engineer will arrive on site within 4 hours of the requirement being established. The SLA is however restricted to standard business hours (defined as 09:00 – 17:30 - UK time - Monday to Friday excluding UK bank holidays), so a requirement established at 16:30 Thur would mean that Foehn are required by SLA to arrive on site by 11:30 am Fri.

8 x 5 x Next Business Day Engineer to Site	This is an SLA option which dictates that when on site presence is required (typically to deal with a hardware failure) a Foehn engineer will arrive on site during the next business day. The SLA is restricted to standard business hours (defined as 09:00 – 17:30 - UK time - Monday to Friday excluding UK bank holidays). So a requirement established at any point on Thur would mean that Foehn are required by SLA to arrive on site between the hours of 09:00 and 17:30 Friday.
24 x 7 x 4 Engineer to Site	This is an SLA which dictates that when on site presence is required (typically to deal with a hardware failure) a Foehn engineer will arrive on site within 4 hours of the requirement being established. The SLA has no evening or weekend restrictions, so a requirement established at 16:30 would mean that Foehn are required by SLA to arrive on site 20:30 that same day.
24 x 7 x Next Business Day Engineer to Site	This is an SLA which dictates that when on site presence is required (typically to deal with a hardware failure) a Foehn engineer will arrive on site the next day of the requirement being established. The difference between this and 8 x 5 x Next Business Day Engineer to Site is that the remote diagnostic cover has no evening or weekend restrictions. So a requirement established at 21:30 on Thur would mean that Foehn are required by SLA to arrive on site between the hours of 09:00 and 17:30 Friday. This SLA is typically preferred by customers with high availability built into critical systems who value the reassurance of 24 x 7 diagnostics and can tolerate component failure.

Contract Management	Description
Asset Management	A managed service option only. Foehn takes responsibility for the equipments asset management through the cycle. If required this will include liaison with the customer’s finance teams to model depreciation.
Additional 3 <sup>rd</sup> Party Invoice Management	A managed service option only. Foehn operates as an end-to-end service provider, handling billing and involving to additional third parties. This option is designed for Company’s who would like to add further parties to an Foehn outsource supply agreement.
Additional 3 <sup>rd</sup> Party Contract Management	A managed service option only. Foehn operates as an end-to-end service provider, taking responsibility for issuing and renewing the contracts of other third parties. This option is designed for Company’s who would like to add further parties to a Foehn outsource supply agreement and hand total responsibility to Foehn.
License Subscription	A managed service option only. With this option Foehn are responsible for managing platform licenses through the service term, ensuring subscriptions are complete and cost effectively renewed year on year.
SSL Certificate Management	With this option Foehn are responsible for managing SSL / authentication certificates used by the system, including renewals and placement on the system. This service is designed to prevent unexpected cert expiry and system outage.

Access to IOS patches and software upgrades	Foehn manage the customer's subscription to IOS patches and software upgrades that are deemed necessary for ongoing maintenance. This option is highly recommended for systems that regularly update their code for the platforms operation (such as IPS platforms) or are prone to major commercial service releases significantly redefining functionality, performance or security.
Vendor and TAC support & escalation	With this option Foehn will maintain a path to the platform vendor for technical escalation of complex recurring faults, bug reports and access to hotfixes/patches.

Configuration Management	Description
Configuration Management through a Foehn owned 'Site Manual' or 'As Built document'	Essentially a document produced and managed by Foehn, which details the configurations, hardware, software, licenses, warranties, third party equipment and contracts in use at the site(s) plus what is specifically supported under the Agreement.
Appliance Configuration Backup & Restoration	Foehn will manage configuration backups and restore in the event of appliance failure. The backup assurance is based around restoration to a last known good configuration.
Server Platform Backup & Restoration	Foehn will manage server configuration and data backups and restore in the event of appliance failure. The backup assurance is based around restoration to an index of backups over a historical period (to be agreed).
Off site data storage	Foehn will contract in a third party and manage their storage and retrieval cycles to provide service assurance as part of a business continuity system.

Change Management	Description
Standard MACD's (Moves, Adds, Changes and Deletes)	Platform changes that are considered administrative in nature and captured in a relevant section of this document. Essentially changes that do not entail a platform design change.
Inbuilt Non Standard Changes to commissioned Design	A Foehn service whereby design changes are captured by the support schedule's commercial framework (an optimise schedule). This is intended for Company's with frequent business change that would like the flexibility to cost effectively augment their system through its lifecycle. Augmentations being shifts in Performance, Security, Availability or usage.
Platform Q&A and Peripheral System Change Impact Analysis	With this option Foehn will on-demand advise the customer of potential re-configurations to the system and provide analysis of potential impacts caused by other customer initiatives. Essentially a service beyond break/fix support. The option also prevents the customer from causing faults that Foehn would typically charge to fix.

Regular Application of Patches / Hot fixes for ongoing best practice maintenance	This option can sit as part of a customer’s patch management framework. Foehn can either work on the basis of applying patches as they become available from the vendor or not (i.e. “a don’t fix what is not broken” stance). Whether elected or not this option does not relate to critical security patches which Foehn strongly advocate applying and maintain a standalone option for.
Vendor software release captive Lab testing	With this option Foehn can either tactically build or permanently maintain a lab setup (on either Foehn or customer premises) of the customers system for verification of software releases, hotfixes and patches. Without this option Foehn cannot warrant that vendor updates will not cause problems when applied.

Incident Management	Description
Incident Problem Management	This is an integral part of support generally. The term defines an approach for fault management, incident diagnostics and incident resolution (inc. patch/hotfix application where applicable).
Event Alerting	If pro-active service monitoring (operate and optimise levels) is included in the service then customer notification is also included in the overall process.
Escalation Management	Again, this is an integral part of support generally. The term defines an approach towards escalating the problem within Foehn’s management and in some instances within the customer’s organisation if other parties are considered to be the cause of SLA breach.
Notification Management	This is a highly bespoke service whereby in the event of a major outage Foehn will take responsibility for the notification of a range of customer (or even a company-wide announcement in the event of a Disaster Recovery Scenario) or other parties.

Spares to Site	Description
8 x 5 x 4 Spares to Site	This is an SLA option which dictates that when replacement hardware is required it will arrive on site within 4 hours of the requirement being established. The SLA is however restricted to standard business hours (defined as 09:00 – 17:30 - UK time - Monday to Friday excluding UK bank holidays), so a requirement established at 16:30 Thur would mean that the hardware will be required by SLA to arrive on site by 11:30 am Fri. A Foehn engineer would typically be running in a parallel ‘engineer to site’ process to install the hardware.

8 x 5 x Next Business Day Spares to Site	This is an SLA option which dictates that when replacement hardware is required it will arrive on site during the next business day. The SLA is restricted to standard business hours (defined as 09:00 – 17:30 - UK time - Monday to Friday excluding UK bank holidays). So a requirement established at any point on Thur would mean that the hardware will be required by SLA to arrive on site between the hours of 09:00 and 17:30 Friday. A Foehn engineer would typically be running in a parallel ‘engineer to site’ process to install the hardware.
24 x 7 x 4 Spares to Site	This is an SLA which dictates that when replacement hardware is required it will arrive on site within 4 hours of the requirement being established. The SLA has no evening or weekend restrictions, so a requirement established at 16:30 would mean that the hardware is required by SLA to arrive on site 20:30 that same day. A Foehn engineer would typically be running in a parallel ‘engineer to site’ process to install the hardware.
24 x 7 x Next Business Day Spares to Site	This is an SLA which dictates that when replacement hardware is required it will arrive on site the next day of the requirement being established. The difference between this and 8 x 5 x 4 Spares to Site to Site is that the remote diagnostic cover has no evening or weekend restrictions. So a requirement established at 21:30 on Thur would mean that the hardware is required by SLA to arrive on site between the hours of 09:00 and 17:30 Friday. A Foehn engineer would typically be running in a parallel ‘engineer to site’ process to install the hardware. This SLA is typically preferred by customers with high availability built into critical systems who value the reassurance of 24 x 7 diagnostics and can tolerate component failure.
Onsite sparing	This is an option whereby Foehn manages onsite spares for components prone to failure, of a mass scale (such as hard drives or GBIC modules) or extremely critical in nature. Foehn manage the inventory (storage and renewal) in a customer provided locker at the data processing facility.
Shipping, tax and import support	For maintain responsibility for logistics such as shipping components between customer sites and third parties.

Service Desk	Description
8 x 5 Service Desk Access	Foehn’s service desk provides a normal working hours (09:00 – 17:30 - UK time - Monday to Friday excluding UK bank holidays), telephone number and contract code to the customer. Issues are diagnosed and passed through the applicable service layers through this same window. The service desk will not process calls for the customer outside of these hours.
24 x 7 Service Desk Access	Foehn’s service desk provides a 24 x 7 x 365 telephone number and contract code to the customer. Issues are diagnosed and passed through the applicable service layers through this same window for optimal resolution speed.
Unlimited support tickets	The customer has no restriction on the number of service tickets raised.

Service Call Review	In addition to an agreed schedule of customer updates during an incident, the service desk can be contacted at any point and queried for a call status.
Managed Device Information	With this service the Customer can contact the Service Desk at any time and request a real-time verification of the configuration of the platform. This is a useful service for customer's when wanting to understand the implications of changes to peripheral systems.
Historical System Events Reporter	With this service the Customer can contact the Service Desk at any time and request a verification of error events of the platform. This is a useful service for customer's when wanting to understand the compliance landscape or quickly profile mean time between failure (MTBF) between service availability reports.
Real-time Availability Reporting	With this service the Customer can contact the Service Desk at any time and request a verification of the system's present availability. This offering proves valuable to customer's experiencing a wide scale communications fault.
Online Support Portal Access	With this service the Customer has 24x7x365 access to a secure online portal that provides access to service tickets, real-time and historical system availability information, platform wiki and platform configuration information.

Service Delivery Management	Description
SLA's	Foehn will commit to resolution targets disclosed in this document (refer to section: Service Priorities & Service Level Agreement).
Service Level Reporting	On the schedule determined by the customer's Service Review requirement Foehn will provide a summary of SLA performance over the period.
Service Availability Reporting	On the schedule determined by the customer's Service Review requirement Foehn will provide a summary of System Availability over the period.
Service Credits	In the event of a series of SLA violations over a monthly period Foehn will provide a service credit for the period (refer to section: Service Credits).
Vendor Software Release Notifications	On the schedule determined by the customer's Service Review requirement Foehn will provide a summary of vendor software releases relating to the platform for the period so that they can understand the upgrade landscape.
Quarterly Service Review	A quarterly review that delivers Service and Availability Reporting and management discussion to stop check for potential service improvements and/or field complaints.
Monthly Service Review	A monthly review that delivers Service and Availability Reporting and management discussion to stop check for potential service improvements and/or field complaints.
Managing Consultant Review & Leader (Usage, Availability, Performance and Security)	An <i>optimise</i> service offering. A Foehn Managing Consultant will pro-actively profile for opportunities to improve the Customer's usage of the platform.

Threshold Management	Description
Device Health Status	A monitoring measure that determines that the device is powered on and connected to the network. This measure is largely profiling major power, operating system or network faults.
Application Health Status	A monitoring measure that determines that the availability of the application running on the device. This measure is profiling for software errors on the system. This service is not always achievable and depends on the type of service and platform functionality.
Quality of Service Status	A monitoring measure that determines the Quality of Service rendered by an application or a network. Foehn will utilize a scoring system and notify on breaches under a set level.
Critical Threshold Status	This monitoring option sits in the <i>operate</i> framework and constitutes a basic measure of system performance across a series of key metrics. For instance if CPU load is persistently above 85% then Foehn will notify the customer that a performance bottleneck may have commenced. This stands as a basic countermeasure towards service failure due to overuse. The onus is then on the customer to move quickly on remediation initiatives. It should be noted that this service offering largely sits below Foehn's <i>optimise</i> service which performs trend analysis to prevent a threshold being persistently hit and any such knee jerk responses.
Alarm Monitoring	A monitoring measure which captures fault conditions reported from management components on the platform (such as Fan failure) so that remedial action can be taken.
Online Support Portal Availability Reporting	With this service the Customer has 24x7x365 access to a secure online portal that provides real-time and historical system availability information.

Performance Management	Description
Detailed Performance Reporting	Foehn will maintain records of key performance metrics so that trends can be established and countermeasures deployed to prevent a Critical Threshold Status being persistently hit.
Long Term Trend Reporting	Foehn will maintain record integrity for key performance metrics so that trends can be determined over a 1 year period.
Performance Optimization	This is an <i>optimise</i> offering. In conjunction with a designated Managing Consultant Foehn will conduct activities to <b>improve</b> system performance so that the capital lifecycle of the equipment can be maintained. The only additional costs that may be passed onto the customer is from Foehn having to add hardware options to the platform covered.
Capacity Management	This is an <i>optimise</i> offering. In conjunction with a designated Managing Consultant Foehn will conduct activities to <b>control</b> system performance so that the capital lifecycle of the equipment can be maintained (i.e. the asset is sweated until fully depreciated).

Performance Problem Management	This is an <i>optimise</i> offering. Foehn will conduct activities to mitigate system performance problems that are caused by unpredicted utilization (such as rapid company acquisitions or third party supplier failures).
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Security Management	Description
Security Breach Alerting	This is a service for perimeter equipment supported in either an <i>operate</i> or <i>optimise</i> model.
Tactical Security Response Team	This is a service for perimeter equipment supported in either an <i>operate</i> or <i>optimise</i> model. It provides a full service wrap that provides Security Breach Vector Analysis/Reporting and controlled Remediation.
Critical Vendor/Product Security Vulnerability Alerting	Foehn will monitor and issue the Customer Critical Security Advisories for the version of the system under support.
Application of fixes to remedy critical security vulnerabilities	If an elected service Foehn will plan deployment of the recommended security fixes (patches, work-around configurations etc).
Continuous Security Vulnerability Assessment	With this option Foehn will utilize an automatic penetration testing technique that continually verifies the security compliance of the platform under support.
Periodic Security Vulnerability Assessment	With this option Foehn will perform a handcrafted penetration test of the platform under support on a schedule agreed with the customer. Typically Quarterly or Annually.