

APPENDIX 1: TECHNICAL SCORESHEET

No	Criteria	Score			Related documents	Supplier's references
		Band Score	Description of Band Score	Minimum Score		
I	Supplier's Competence & Experience	80		40	Name of the document related to each criteria item	The supplier cites sectors, pages, items in the related documents in which VN can find information to support the scoring process
I.1	Years of expertise in building and operating the NPP solution	10		5		
1	The supplier provides adequate supporting materials to clarify its expertise	10	More than 10 years of developing and commercializing one or all sub-systems in the NPP solution			
		5	More than 5 years but less than 10 years of developing and commercializing one or all sub-systems in the NPP solution			
		0	Fewer than 5 years of developing and commercializing one or all sub-systems in the NPP solution			
I.2	Customer base	30		15		
1	The supplier provides adequate supporting materials to clarify the percentage of their current customer base that are full service/ network carriers.	10	More than 70% of the supplier's customer base are full service/ network carriers			
		5	50% - 70% of the supplier's customer base are full service/ network carriers	5		
		0	Less than 50% of the supplier's customer base are full service/ network carriers			
2	The supplier provides adequate supporting materials to clarify the percentage of their current customer base that are airlines with specific criteria	10	More than 50% of the supplier's customer base are airlines that fly 20 million passengers/year			
		5	30% - 50% of the supplier's customer base are airlines that fly 20 million passengers/year	5		
		0	Less than 30% of the supplier's customer base are airlines that fly 20 million passengers/year			
3	The supplier provides adequate supporting materials to clarify the percentage of their current customer base that are members of Skyteam, Oneworld or Star Alliance	10	More than 70% of the supplier's customer base are members of SkyTeam, OneWorld, or Star Alliance			
		5	50% - 70% of the supplier's customer base are members of SkyTeam, OneWorld, or Star Alliance	5		
		0	Less than 50% of the supplier's customer base are members of SkyTeam, OneWorld, or Star Alliance			
I.3	Percentage of customers currently using the NPP solution	20		10		
1	The supplier provides adequate supporting materials to clarify the percentage of their current customer base using at least 1 sub-system in the NPP solution	20	More than 50% of the supplier's customer base currently using at least one of the three sub-systems of the NPP solution			
		10	30% - 50% of the supplier's customer base currently using at least one of the three sub-systems of the NPP solution	10		
		0	Less than 30% of the supplier's customer base currently using at least one of the three sub-systems of the NPP solution			
I.5	Number of new customers in the past 3 years	20		10		
1	The supplier provides adequate supporting materials to clarify the entrance of new customers in the past 03 years	20	Have more than 5 new customers in the past 2 years using one or all sub-systems of the NPP solution			
		10	Have from 3-5 new customers in the past 2 years using one or all sub-systems of the NPP solution			
		0	Have fewer than 3 new customers in the past 2 years using one or all sub-systems of the NPP solution			
I.6	Having customers in the aviation industry that are not airlines use any of the sub-systems in the NPP solution	10		0		
1	The supplier provides adequate supporting materials to demonstrate their non-airlines customer using at least one of the sub-systems in the NPP solution	10	The supplier provides adequate supporting materials to demonstrate their non-airlines customer using at least one of the sub-systems in the NPP solution			
		0	The supplier fails to provide adequate supporting materials to demonstrate their non-airlines customer using at least one of the sub-systems in the NPP solution, or do not currently have any non-airlines customers using at least one of the sub-systems in the NPP solution			
II	Technical requirements	850		627.5		
II.1	Mid to long-term network planning	200		125		
I	Main function	50		40		
		30	Through the provided materials, VN understands that this sub-system can generate a flight network from very simple inputs, without the need of a base schedule from VN. Furthermore, the sub-system can perform fleet, bank hub, network optimization, suggest most profitable destinations and suitable frequencies. VN can fully operate the sub-system and produce the most optimal results without needing to cooperate with the supplier in a consultation project or a proof-of-concept project.	30		

No	Criteria	Score			Related documents	Supplier's references
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1.1	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the system's main function and capability	0	Through the provided materials, VN understands that this sub-system can generate a flight network from very simple inputs, without the need of a base schedule from VN. Furthermore, the sub-system can perform fleet, bank hub, network optimization, suggest most profitable destinations and suitable frequencies. However, VN cannot fully operate the sub-system and must cooperate with the supplier in a consultation project or a proof-of-concept project to yield the most optimal results. OR, VN is unable to conclude that the sub-system can generate a flight network from very simple inputs, without the need of a base schedule from VN, perform fleet, bank hub, network optimization, suggest most profitable destinations and suitable frequencies. OR, VN can conclude that this sub-system cannot perform the tasks expected by VN. Further enquiries from VN for extra information are not sufficiently met.			
1.2	The supplier provides contact point(s) from current consumers for VN to validate the functionality of the sub-system, along with the adequate evident of the system's main function and capability. Evident include but are not limited to: + Proof of concept projects carried out with other customers. + Standalone demo project using VN's assumptions. + Written confirmation from other customers regarding the achievability of the sub-system in terms of output.	20	The supplier can provide more than 02 contact point(s) from current customers for validation purposes along with evident of the system's main function and capability. The contact points are considered valid if VN can reach out and receive feedback from these personnels regarding the sub-system in question			
		10	The supplier can provide at least 02 contact point(s) from current customers for validation purposes. The contact points are considered valid if VN can reach out and receive feedback from these personnels regarding the sub-system in question	10		
		0	The supplier cannot provide any forms of evident, including the contact point(s) from current customers for validation purposes			
2	Input data	30		20		
2.1	This sub-system is able to utilize VN's existing data sources as inputs, including but not limited to: + Schedule data from OAG or Cirium + Demand and market size data from IATA DDS or FM Traffic + Data from VN's current IT systems: RMS, PSS, Cargo Spot, ... + Scheduling system: Netline/ Sched, Netline/ Slot Manager	10	This sub-system can utilize VN's available data sources as inputs. The supplier makes written commitment to assist VN in building intermediary platforms to facilitate the transfer of VN's data to the sub-system if necessary. The supplier provides detailed explanation if they believed that building intermediary platforms to support the transfer of VN's existing data to the sub-system is not necessary	10		
		0	This sub-system cannot utilize VN's available data sources as inputs, consequently requiring additional cost to purchase extra data sources to meet the basic input requirements of the sub-system OR, This sub-system can utilize VN's available data sources as inputs. However, the supplier does not make written commitment to assist VN in building intermediary platforms to facilitate the transfer of VN's existing data to the sub-system. OR, The supplier fails to provide explanation to support their claim that building intermediary platforms for data transferring purpose is not necessary			
2.2	The supplier clearly describes the platform that will be used to load VN's input data for calculation. The platform mentioned need to be customizable to add new input categories that suit VN's calculation purposes. Furthermore, this platform should include at minimum the following criteria: + Desired frequencies, day of week; + Desired departure and arrival time range; + O&D market volume; + Non-stop and connecting yield for each market; + Fixed and variable cost items for each aircraft type; + Current hub(s) and operating airports; + Aircraft capability (brand, make, capacity, maximum operation distance, ...); + Operating constrain for aircraft type, airport (curfew, restricted aircraft, ...); + Minimum and maximum connecting time (domestic vs international, for other markets); + Ground time (for each type of aircraft, airport,...); + VN's slot pool and slot constraints; + Geographic data for reference purposes;	20	The supplier transparently describes the platform that will be used to input VN's data for further calculation. The platform is proven to be fully customizable and allows users to feed in at least all the criteria previously stated.			
		10	The supplier provides only some general materials to describe the platform that will be used to input VN's data for further calculation, and cannot provide more details at the request of VN. The platform's customizability is considered more limited compared to the band score above	10		
		0	The supplier fails to provide any supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to describe the platforms for data input. OR, Through the provided material, VN conclude that the supplier's platform has very little to no customizability, OR, Through the provided materials, VN can conclude that the sub-system does not have the minimum criteria as listed in criteria 2.2			
3	Network construction and optimization methodology The Sub-system construct and optimize VN's network by solving the following dilemma, either simultaneously or following a step-by-step procedure - Destination and Frequencies Selection - Fleet Assignment - Time Optimization - Aircraft Rotation Optimization	60		30		

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3.1	The sub-system can choose the most profitable markets in the right frequency	15	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the ability of the sub-system to carry out the task mentioned in the corresponding criteria, and explain in details the methodology and calculation process to choose the most profitable markets in the right frequency. The provided materials allow VN to fully comprehend the methodology and calculation process regarding this function			
		7.5	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the ability of the sub-system to carry out the task mentioned in the corresponding criteria. However, the provided materials and the explanation regarding methodology and calculation process are deemed insufficient and less extensive compared to the band score above compared to the band score above The provided materials only allow VN to gain a basic comprehension of the methodology and calculation process regarding this function and further questions must be asked in order to better understand this function.	7.5		
		0	The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) and any explanation regarding methodology and calculation process to demonstrate the ability of the sub-system to carry out the task mentioned in the corresponding criteria. OR, From the provided material, VN concludes that the sub-system cannot carry out the required task.			
3.2	The sub-system allows for the most profitable use of the fleet by efficiently assigning aircraft to routes while considering revenues and costs	15	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the ability of the sub-system to carry out the task mentioned in criteria 3.2, and explain in details the methodology and calculation process of assigning aircraft routes in the most profitable arrangements. The provided materials allow VN to fully comprehend the methodology and calculation process regarding this function			
		7.5	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the ability of the sub-system to carry out the task mentioned in criteria 3.2. However, the provided materials are deemed insufficient and less extensive compared to the band score above. The provided materials only allow VN to gain a basic comprehension of the methodology and calculation process regarding this function and further questions must be asked in order to better understand this function.	7.5		
		0	The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) and any explanation regarding methodology and calculation process to demonstrate the ability of the sub-system to carry out the task mentioned in criteria 3.2. Further enquiries by VN for extra information are not sufficiently met. OR, From the provided material, VN concludes that the sub-system cannot carry out the required task.			
3.3	The sub-system designs the most optimal bank structure while respecting curfews and airport slots	15	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the ability of the sub-system to carry out the task mentioned in the corresponding criteria, and explain in details the methodology and calculation process of designing the most optimal bank hub. The provided materials allow VN to fully comprehend the methodology and calculation process regarding this function			
		7.5	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the ability of the sub-system to carry out the task mentioned in the corresponding criteria. However, the provided materials, and the explanation regarding methodology and calculation process are deemed insufficient and less extensive compared to the band score above. The provided materials only allow VN to gain a basic comprehension of the methodology and calculation process regarding this function and further questions must be asked in order to better understand this function.	7.5		
		0	The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) and any explanation regarding methodology and calculation process to demonstrate the ability of the sub-system to carry out the task mentioned in the corresponding criteria. Further enquiries by VN for extra information are not sufficiently met. OR, From the provided material, VN concludes that the sub-system cannot carry out the required task.			

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3.4	This sub-system generates reliable aircraft rotations that take into consideration ground time rules and aircraft inventory	15	The supplier can demonstrate (through written documents, tutorial videos, or face-to-face demo) the ability of the sub-system to carry out the task mentioned in the corresponding criteria, and explain in details the methodology and calculation process of rotating aircraft in the most reliable manner. The provided materials allow VN to fully comprehend the methodology and calculation process regarding this function			
		7.5	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the ability of the sub-system to carry out the task mentioned in the corresponding criteria. However, the provided materials and the explanation regarding methodology and calculation process are deemed insufficient and less extensive compared to the band score above. The provided materials only allow VN to gain a basic comprehension of the methodology and calculation process regarding this function and further questions must be asked in order to better understand this function.	7.5		
		0	The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) and any explanation regarding methodology and calculation process to demonstrate the ability of the sub-system to carry out the task mentioned in the corresponding criteria. Further enquiries from VN for extra information are not sufficiently met. OR, From the provided material, VN concludes that the sub-system cannot carry out the required task.			
4	Network Profitability assessment and back testing	30		15		
4.1	The supplier explains in details the methodology, process, and models involved in the assessment of the generated network's profitability. The profitability assessment process follows the workflow below: + Building logical itineraries + Allocating market share for each of the itineraries using LOGIT or QSI based model + Predicting unconstrained demand + Calculating spill and recapture + Calculating revenue + Calculating cost	20	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate each of the listed step in the profitability assessment process.			
		10	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate each of the listed step in the profitability assessment process. However, the provided materials are deemed insufficient and less extensive compared to the band score above.	10		
		0	The subsystem does not apply a similar assessment workflow as listed by VN OR, the supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the sub-system's ability to deliver quality result, despite not following the industry-standard process of network profitability analysis. Further enquiries from VN for extra information are not sufficiently met.			
4.2	The supplier explains in details how the sub-system manages and backrests all the generated versions of the network and chooses the most optimal one	10	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) and any explanation regarding methodology and calculation process to demonstrate how the sub-system iteratively evaluates the quality and validity of each generated network and clarify the criteria which the sub-system uses to compare different network versions and chooses the most optimal one.			
		5	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate how the sub-system iteratively evaluates the quality and validity of each generated network and clarify the criteria which the sub-system uses to compare different network versions and chooses the most optimal one. However, the provided materials and any explanation regarding methodology and calculation process are deemed insufficient and less extensive compared to the band score above	5		
		0	The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the ability to iteratively evaluate, backrest, and compare generated network versions to pick out the optimal one. Further enquiries from VN for extra information are not sufficiently met. OR, From the provided materials and any explanation regarding methodology and calculation process, VN can conclude that the sub-system cannot carry out the required task			
5	The sub-system's output is a rotated, operationable schedule in SSIM format, which is optimized in terms of profitability. The generated schedule can be used immediately for	Output of the sub-system		10		
		10	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the sub-system's ability to produce the requested output.			
		5	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the sub-system's ability to produce the requested output. However, the provided materials are deemed insufficient and less extensive compared to the band score above	5		

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	operational purposes by loading into VN's current scheduling system (Netline/Sched); or being used for further analysis in the other sub-systems of the NPP solution	0	The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the sub-system's ability to produce the requested output. Further enquiries from VN for extra information are not sufficiently met. OR, From the provided material, VN can conclude that the sub-system cannot provide the required output			
6	Ease of use	20		15		
6.1	All components of the sub-system can be managed using one central platform/ interface. From this central deck, users can freely conduct at minimum the following actions: + Provide input data; + Start, stop or restart the optimization process; + Check the optimization status; + Retrieve the end result;	10	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate that the sub-system has a central platform/ interface for managing and supervising the network construction and optimization process	10		
		0	The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate that the sub-system has a central platform/ interface for managing and supervising the network construction and optimization process. Further enquiries from VN for extra information are not sufficiently met. OR, From the provided material, VN can conclude that components of the sub-system are managed using more than 01 platform.			
6.2	The sub-system provides adequate reporting templates and tools, in which the following reporting templates are compulsory: + Summarization report that provides important KPIs of the generated network; + Detailed report on scheduled flights (onboard pax, revenue, cost, profit, ...); + Market demand report (market share, local and connecting demand and revenue, ...); + Slot related report.	10	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate that the sub-system provides at least the listed 4 reporting templates and additional templates which are deemed practical by VN.			
		5	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate that the sub-system provides at least the listed 4 reporting templates. However, the additional reporting templates provided by the sub-system are deemed impractical by VN.	5		
		0	The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate that the sub-system provides at least the listed 4 reporting templates. Or through the provided materials, VN concludes that the sub-system cannot provide any of the listed 4 reporting templates			
11.2	Network Scenario Forecasting	400		292.5		
1	Main function	50		40		
1.1	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the sub-system's main function and capability.	30	Through the provided materials and the explanation regarding methodology and calculation process, VN can conclude that this sub-system is capable of generating and assessing the profitability of multiple experimental scenarios, while comparing them to a pre-defined "base schedule". An experimental scenario may consist of a range of strategic and tactical modifications and assumptions including, but not limited to: + Operating a new route or enter a new market; + Operating a new fleet; + Establishing a new codeshare partnership; + Changing alliance; + Establishing a new airlines (e.g. LCC arm) + Changing fleet, ETD, ETA, frequency of an existing route.	30		
		0	The provided information and the explanation regarding methodology and calculation process is deemed insufficient and less extensive compared to the band score above. Therefore, VN can only comprehend the capability of the sub-system to some extent. Further enquiries from VN for extra information are not sufficiently met. OR, Through the provided materials and the explanation regarding methodology and calculation process, VN is unable to conclude that the sub-system is capable of carrying out the required tasks as efficiently as listed in the highest band score. OR, Through the provided materials and the explanation regarding methodology and calculation process, VN can conclude that this sub-system is fully incapable of carrying out the required tasks. OR, The supplier fails to provide any supporting materials to demonstrate the sub-system's main function and capability			
1.2	The supplier should provides contact point(s) from current consumers for VN to validate the functionality of the sub-system, along with the evident of the system's main function and capability. Evident include but not limited to: + Standalone demo project using VN's assumptions. + Written confirmation from other customers regarding the achievability of the sub-system in terms of output.	20	The supplier can provide more than 02 contact point(s) from current customers for validation purposes along with evident of the system's main function and capability. The contact points are considered valid if VN can reach out and receive feedback from these personnels regarding the sub-system in questions			
		10	The supplier can provide at least 02 contact point(s) from current customers for validation purposes. The contact points are considered valid if VN can reach out and receive feedback from these personnels regarding the sub-system in questions	10		

No	Criteria	Score			Related documents	Supplier's references
		Band Score	Description of Band Score	Minimum Score		
		0	The supplier cannot provide any forms of evident, including the contact point(s) from current customers for validation purposes			
2	Input data	30		20		
2.1	This sub-system is able to utilize VN's existing data sources as inputs, including but not limited to: + OAG or Cirium + IATA DDS or FM Traffic + In-house systems: RMS, PMS, Cargo Spot + VN schedule from scheduling system + VN slot data from Netline/ Slot Manager + Output from the mid to long-term network planning sub-system	10	This sub-system can utilize VN's available data sources as inputs. The supplier makes written commitment to assist VN in building intermediary platforms to facilitate the transfer of VN's data to the sub-system if necessary. The supplier provides detailed explanation if they believe that building intermediary platforms for data input is not necessary	10		
		0	This sub-system can utilize VN's available data sources as inputs. However, the supplier does not make written commitment to assist VN in building intermediary platforms to facilitate the transfer of VN's data to the supplier's input platform. OR, Through the provided materials, VN concludes that this sub-system cannot utilize VN's available data sources as inputs, consequently requiring additional cost to purchase extra data sources to meet the basic input requirements of the sub-system. OR, The supplier fails to provide any further explanations to support their claim that building intermediary platforms for data input is not necessary			
2.2	The supplier clearly describes the platform that will be used to load VN's input data for calculation and/or calibration. The platform mentioned need to be customizable to add new input categories that suit VN's calculation purposes. Furthermore, this platform allow by default the submission of at least the following data categorization: + Historic Passenger data (including but not limited to: Travel month/ year, Origin and Destination Airport, Connect point(s), Dominant marketing and operating airlines, total on-board passengers, passenger revenue, ...) + Airline Internal Ticketing data (including but not limited to: departure date, operating flight number, operating airlines, origin and destination airport, total on-board pax, local on-board pax, code-share pax, go-shows, load factor, capacity) + Schedule data + Reference data from third party sources like OAG or Cirium + Alliance data (e.g. airlines code in alliance) + Booking class mapping + Revenue data (minimum local, connecting revenue per segment per passenger) + Cost data + Market size growth factor and stimulation factor (when deploying a new operation)	20	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the platform that will be used to input VN's data for further calculation. The platform is proven to be fully customizable and allows users to feed in at least all the categories previously stated.			
		10	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the platform that will be used to input VN's data for further calculation. The platform's customizability is considered more limited compared to the band score above	10		
		0	The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the platforms for data input. Further enquiries by VN for extra information are not sufficiently met. OR, Through the provided materials, VN concludes that the data input platform(s) has little to no customizability. OR, Through the provided materials, VN concludes that the data input platforms does not have the minimum items as listed in criteria 2.2.			
3	Profitability Assessment Model	240		185		
3.1	Connection Builder Model	30		25		
3.1.1	Connection Builder Model is responsible for creating reasonable and feasible passenger itineraries, while simultaneously eliminating unrealistic ones. In order to accomplish this task, the model should take into consideration at least the following criteria: + Circuity (Absolute and Relative); + Minimum Connecting Time (categorized by nature of the itineraries, for instance, domestic-domestic, international-domestic, ...); + Maximum Connecting Time; + Actually Effective Elapsed Time relative to Fastest Elapsed Time; + Interline, Codeshare agreements in place; + Traffic Restrictions of legs;	20	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the model's capability. Through the provided materials, VN can conclude that	20		
		0	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the model's capability. However, the provided materials are deemed insufficient and less extensive compared to the band score above. OR, The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the model's capability. Further enquiries from VN for extra information are not sufficiently met. OR, From the provided materials, VN can conclude that the Model cannot factor in the minimum criteria as listed. OR, From the provided materials, VN can conclude that the model can create reasonable connections but cannot eliminate unrealistic connections			
3.1.2	The user can freely influence the building process by modifying a number of or all of the building rules and criteria. The supplier provides a complete list of all building rules and criteria, with clarifications on which rule/ criteria can be modified.	10	The supplier provides a complete list of all building rules and criteria, with clarifications on which rule/ criteria can be modified.			
		5	The list of building rules/ criteria, and clarification provided are deemed insufficient and less extensive compared to the band score above.	5		
		0	The supplier fails to provide a complete list of all building rules and criteria, with clarifications on which rule/ criteria can be modified. OR, The rules and criteria cannot be modified without the direct involvement of the supplier			
3.2	Market Share Model	60		50		
3.2.1	The Market Share Model assesses the attractiveness of all generated itineraries and quantifying this attractiveness by assigning a utility value to each itinerary. This allows the	10	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the calculation process and formula behind the market share model	10		

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	model to forecast the unconstrained market share of each itinerary. The supplier provides clear explanation of the calculation process and formula behind the market share model	0	The supplier fails to provide clear explanation of the calculation process and formula behind the market share model. Additional requests from VN for extra information are not met.			
3.2.2	<p>The Market Share Model is either LOGIT (Multinomial or Nested) or QSI based. The supplier should provides a complete listings of all utility criteria used by their model and clarify the differences if their model facilitates the use of both LOGIT and QSI. The Market Share Model should consider at minimum the following utility criteria, regardless of its basis:</p> <ul style="list-style-type: none"> + Connect Type (direct, single, double) and quality (online, interlines, codeshare...); + Airlines (FSC vs LCC); + Airlines preference based on passenger domicile; + Elapsed Time; + Departure and Arrival Time preference; + Aircraft Type; + Airline Preference; + Connecting time; 	20	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the capability of this model. The model must be LOGIT based . In additions to the minimum criteria, this model is proven to consider extra utility criteria that VN deems necessary, including but not limited to: + Dominance evaluation criteria (in origin, destination, and connecting airports, or specific routes); + Market presence; + Price related criteria; + Competition level categorized by period of time during a day; + Detour factor; + Airlines preferences (e.g. from frequent flyer program); + Operation related (change of airport, gauge, aircraft ...) The extra criteria can either be immediately available from the calibration process, or can be added later at VN's requests.			
		10	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the capability of this model. The model is proven to only consider the basic utility criteria as listed in criteria 3.2.2 OR, The model is QSI based.	10		
		0	The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the capability of this model, OR, Through the provided materials, the model is proven to be incapable of considering the basic utility criteria as listed, OR, The model is neither LOGIT nor QSI based.			
3.2.3	The specific utility point for each criteria can be fully customized whenever VN wants, to influence the final unconstrained market share, through training provided by the supplier.	30	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the customizability of this model.	30		
		0	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the customizability of this model. However, the provided materials are deemed insufficient and less extensive compared to the band score above. There are more uncustomizable utility point than customizable ones OR, The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the customizability of this model. Further enquires from VN for extra information are not sufficiently met. OR, VN cannot customize the utility point without direct involvement of the supplier. OR, The utility point cannot be customized.			
	Unconstrained Passenger Demand Model	10		5		
3.3	The supplier provides clear explanation on the methodology behind the unconstrained Passenger Demand Model. The explanation clearly specifies the market growth factor and stimulation factor that can be used and how to modify them.	10	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the model's methodology and the factors in use. The market growth factor and stimulation factor are shown to be modified easily. The supplier makes written commitment to work together with VN to reach consensus for the suitable growth rate for each market during the calibration/ implementation process.			
		5	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the model's methodology and the factors in use the model's methodology and the factors in use. The supplier makes written commitment to work together with VN to reach consensus for the suitable growth rate for each market during the calibration/ implementation process. However, the growth factor and stimulation factor can only be changed by the supplier and might incur extra costs for VN.	5		

No	Criteria	Score			Related documents	Supplier's references
		Band Score	Description of Band Score	Minimum Score		
		0	The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the methodology of the model, as well as the market growth factor and stimulation factor in use. Further enquiries from VN for extra information are not sufficiently met. OR, The market growth factor and stimulation factor is embedded and cannot be changed. OR, The supplier does not commit to maintain adequate communication between the supplier and VN regarding the growth factor for each market during the calibration/ implementation process.			
3.4	Spill and Recapture Model	20		15		
3.4.1	The supplier provides clear explanation to help VN understand how the process of picking each spilled and recaptured passenger happens.	10	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the process in which each spilled and recaptured passenger is picked and redistributed, as well as the methodology behind the model's decision.			
		5	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the process in which each spilled and recaptured passenger is picked and redistributed, as well as the methodology behind the model's decision. However, the provided materials are deemed insufficient and less extensive compared to the band score above, thus, only facilitate a surface level understanding of the process and methodology.	5		
		0	The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the process in which each spilled and recaptured passenger is picked and redistributed, as well as the methodology behind the model's decision. Further enquiries from VN for extra information are not sufficiently met.			
3.4.2	The user can actively alter the outcome of the spill and recapture process by modifying certain parameters including but not limited to: + Spill Coefficient of Variation (K-factor) + Maximum Average Load Factor + Proximity of the potential itineraries that can recapture spill passenger; The training agenda for this sub-system includes talking points about the customizability of this model	10	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate how the parameters can be modified directly by the users or by the supplier directly, with the latter incurring no extra cost.	10		
		0	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate how the parameters can be modified directly by the users or by the supplier directly. The parameters are shown to only be modified with direct involvement of the supplier, which incurs additional costs. OR, The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate how the parameters can be modified directly by the users or by the supplier directly. OR, The spill and recapture parameters are proven to be fixed and cannot be modified.			
3.5	Revenue Model	50		25		
3.5.1	The supplier clearly explain the proration methods and assumptions in use. The model ideally applies one or more proration methods, including but not limited to: + Straight-rate Proration using great circle distance; + Square root Proration using great circle distance; + Proration using IATA Miles or IATA Full Y Fares (depending on which is available to VN);	10	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the proration methods and assumptions in use. This allows VN to have a comprehensive understanding of how proration is applied in the model.			
		5	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the proration methods and assumptions in use. However, the provided materials are deemed insufficient and less comprehensive compared to the band score above. This only allows VN to have a basic understanding of the application of pro-rata in the model.	5		
		0	The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the proration methods and assumptions in use. Further enquiries from VN for extra information are not sufficiently met. OR, From the provided materials, VN can conclude that the model cannot effectively apply either of the 3 pro-rata methods, hence affecting the calculation process and the output of the sub-system			
3.5.2	The supplier makes clear through supporting materials how the model accounts for SPA, Codeshare agreements, and joint venture while allocating revenues to each itinerary	20	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate that SPA, codeshare agreements and joint venture are correctly accounted for in the process of evaluating and allocating revenues.			
		10	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate that SPA, codeshare agreements and joint venture are correctly accounted for in the process of evaluating and allocating revenues. However, the provided materials are deemed insufficient and less extensive compared to the band score above, thus, are not conclusive enough to determine how accurate these factors are accounted for.	10		

No	Criteria	Score			Related documents	Supplier's references
		Band Score	Description of Band Score	Minimum Score		
		0	The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate how the model can accurately factor in SPA, codeshare agreements or Joint Venture. Further enquiries from VN for extra information are not sufficiently met. OR, From the provided materials, VN can conclude that the model cannot account for SPA, Codeshare, or Joint venture while allocating revenues to each itinerary, hence affecting the calculation process and the output of the sub-system			
3.5.3	This model can calculate, and allocate revenues to, at minimum, the following level of granularity: + The entire network of VN; + Each O&D market; + Each leg; + Each passenger; + Passengers categorized by cabin (cabin level); + Passengers categorized by connect type (direct, connecting, ...)	20	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the model's capability to calculate and allocate revenues to the requested granularity, without incurring extra cost (i.e. from customizing the model).			
		10	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the model's capability to calculate and allocate revenues to the requested granularity. However, the provided materials are deemed insufficient and less extensive compared to the band score above, or they show that the model cannot allocate revenue into cabin level or individual passengers, or must incur additional cost to modify the model to do so.	10		
		0	The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the model's capability to calculate and allocate revenues to the requested granularity. Further enquiries from VN for extra information are not sufficiently met. OR, Through the provided material, the model is believed by VN to be incapable of doing the required task.			
3.6	Cost Model	70		65		
3.6.1	The model allows users to establish their own formula and or create new cost items by using the basic mathematics operations (addition, subtraction, multiplication, and division), as well as more complicated operations like exponentiation and IF-Formula	20	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...), which allows VN to conclude that the model is capable of the required assignment	20		
		0	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...). However, the provided materials are deemed insufficient and less extensive compared to the band score above, thus, do not allow VN to make concrete conclusion that the model is capable of the required assignment OR, The supplier fails to provide any supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to allow VN to conclude that the model is capable of accomplishing the regarded assignment. OR, After studying the provided materials, VN concludes that the model is incapable of accomplishing the regarded assignments			
3.6.2	The users can freely create and/or modified the following components in the cost model whenever they want: + Cost type: Variable or Fixed Cost + Cost Group: Allowing user to group cost items of similar nature + Cost Driver: Including but not limited to ASKs, RPKs, Block Time, Flight Time, Capacity, Distance, On-board Pax, local passenger, revenue, ... + Cost keys: Including but not limited to departure and arrival station, country and city pair, subfleet, AC owner, day of week, service type, operating airlines, ... + Cost Fallback Value;	40	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate how the users can freely create and modify at minimum the listed components in the cost model whenever they want, and fully understand the influence of their actions. The supplier can provide explanations on why certain cost components cannot/ should not be modified. This lack of flexibility must be deemed by VN as nonthreatening to the accuracy of the output of the model and the output of the sub-system	40		
		0	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...), from which VN can concludes that the users cannot alter the cost items, drivers, and other components in the cost model without direct involvement of the supplier. OR, Through the provided materials, VN can conclude that the components listed in this criteria cannot be modified by all means. Furthermore, the users cannot add new items in any of the components (except for the Cost Fallback Value). OR, The supplier's explanation on the lack of flexibility in the model (regarding components modification and creation) is deemed by VN as non-persuasive. This lack of flexibility is believed by VN to hamper the accuracy of this sub-system's output			
		10	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate that cargo and ancillary revenue can be accounted for in the model as negative cost, and can be created, modified, added into calculations in a similar manner as other cost items. If the sub-system treats this revenue item differently, the supplier must provides adequate supporting materials to justify			

No	Criteria	Score			Related documents	Supplier's references
		Band Score	Description of Band Score	Minimum Score		
3.6.3	The model accounts for cargo and ancillary revenue as negative cost.	5	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate that cargo and ancillary revenue can be accounted for in the model as negative cost. However, the process of handling these 02 items (creating, modifying, ...) is completely different from other cost items.	5		
		0	The supplier fails to provide any supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to indicate the model's capability to account for cargo and ancillary revenue, either as negative costs or revenue items. OR, Through the provided material, VN can conclude that the model cannot account for cargo and/or ancillary revenue.			
4	Output of the sub-system	40		25		
4.1	The output of this sub-system is a schedule containing the changes made by users, which can then be transferred to VN's scheduling system for operation purposes in the format of SSIM or via any other transmission methods	10	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the output of the sub-system. Furthermore, the supplier explains in details, with adequate supporting materials, the process of transferring the output into VN's scheduling system. The supplier makes written commitment to assisting VN in building intermediary platforms to support the transferring of output.	10		
		0	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the output of the sub-system. Furthermore, the supplier explains in details, with adequate supporting materials the process of transferring the output into VN's scheduling system. However, the supplier does not make written commitment to assist VN in building intermediary platforms to support the transferring of output. OR, The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the output of the sub-system, as well as the process to transfer the output schedule to VN's scheduling system. Further enquires from VN for extra information are not sufficiently met.			
4.2	The sub-system provides at minimum the following built-in reporting and visualizations templates: + A general evaluation report that provides key KPI of the experimental scenario: Passenger Revenue, Total Revenue, Cost, Profit, RPK, ASK, RASK, CASK, Load factor; + A report that suggests new destinations based on the given inputs like starting airport, flying range, aircraft in use. + A report that shows new potential connection from new routes, or current unserved connection opportunity; + Cost report that presents cost items, drivers, unit cost, cost per cost item for each leg of the network; + A comparison report that compares the bases scenario and the experimental scenario + Chart templates and map view	30	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate that the sub-system is capable of supplying the required templates and more, with the additional ones deemed practical by VN			
		15	From the provided supporting materials (written functional description, tutorial videos, face-2-face demos, ...), VN concludes that the sub-system can either only generate the basic reporting and visualization templates as listed, or the additional built-in templates are deemed unnecessary by VN	15		
		0	The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the sub-system's reporting capability. OR, Through the provided materials, VN can conclude that this sub-system cannot provide adequate reporting and visualization templates to meet VN's needs.			
5	Calibration process	20		12.5		
5.1	The supplier explains in details the process of calibration, including but not limited to: + Requirement in terms of: data, personnel, infrastructure, etc.; + VN and supplier's responsibility during the process; + Timeline of the calibration process; + Pricing and payment terms; + Important steps in the calibration prices in which VN and the supplier discuss to review and confirm the calibration scope; + The possibility to fine-tune the data set after the calibration process is finished; + Suggested timeline to re-calibrate the data set.	5	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the calibration process, with at minimum the points of interest included.	5		
		0	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the calibration process. However, The supplier fails to include most of the points of interest listed. Further enquiries from VN for extra information are not sufficiently met.			
5.2	The supplier provides different packages of calibration for VN to choose the most suitable options. Each option should be differentiated, at minimum, in terms of: + Pricing; + The length of the calibration process + Required data, personnel, and infrastructure, ... + Outcome quality guarantee (quantifiable) + Available add-ons; + The frequency/ process of back testing the forecasted data during calibration.	15	The supplier provides more than 3 options/packages for calibration, each of which is clarified and compared in detailed to others options. The supplier also provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the process of back testing the forecasted data during calibration			
		7.5	The supplier provides fewer than 03, but more than 01 options for calibration, each of which is clarified and compared in detailed to others options. The supplier also provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the process of back testing the forecasted data during calibration	7.5		
		0	The supplier provides only 01 single calibration options. OR, The supplier fails to provide adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the process of back testing the forecasted data during calibration			

No	Criteria	Score			Related documents	Supplier's references
		Band Score	Description of Band Score	Minimum Score		
6	<p>Other analysis and administration tool</p> <p>The sub-system provides analysis and administration tools/interfaces/platforms for the user to manage and modify the sub-system's different components. The sub-system should provides at minimum the following analysis and administration tools/ interfaces/platforms that manages, queries and modifies:</p> <ul style="list-style-type: none"> + Market data, presenting KPIs such as: total frequencies on a market per day/week/month; the connection type of all available itineraries on a market; operating and marketing airlines for all available itineraries, total market size, unconstrained and constrained market share, stimulation factor, market growth factor ... + Market utility parameters used in the market share model; + Itineraries on a market, presenting KPIs such as: elapsed travel time, airlines involved, forecasted unconstrained demand, On-board pax, revenue for VN. + Schedule, segment (sector), leg, presenting KPIs such as: marketing and operating airlines, flight number, frequencies, day of week, departure and arrival time, aircraft, capacity, block time, service types restrictions on any specific segment. + Station (airport), presenting information to facilitate the study of bank structure, connectivity; + Codeshare, especially to compare various codeshare scenarios; + Connection building process, presenting data on how the connection builder model works, retrace the building steps, and manages the parameter in use; + Cost; + Comparing base scenario and experimental scenario; 	20	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to educate and familiarize users with the listed tools. The provided materials also demonstrate the sub-system's capability to supply more helping tools apart from those already listed, and are believed by VN to improve the overall operation of this sub-system.	10		
		10	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to educate and familiarize users with the listed tools. However, the provided materials are deemed insufficient and less extensive compared to the band score above. Or the tools apart from those listed are considered impractical by VN	10		
		0	The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to educate and familiarize users with the listed tools. Or from the provided materials, VN can conclude that the sub-system is incapable of providing even the basic listed tools.			
11.3	Fleet and Schedule Optimization	250		210		
1	Main function	60		50		
1.1	<p>The supplier provides clear summarization of the system's main function and capability, in which VN can find supporting materials (written functional description, tutorial videos, face-2-face demos, ...), solution provided materials, actual use cases, and/or demos for reference purpose. By modifying the given schedule, the sub-system should at minimum satisfy one of the following optimization goals:</p> <ul style="list-style-type: none"> + Maximizing revenue; + Optimizing cost; + Optimizing aircraft utilization. 	30	Through the provided supporting materials, VN can conclude that this sub-system is capable of optimizing VN's long-term, seasonal, and under-season schedule, by strategically and tactically increase/ decrease frequencies, re-rotate schedule, swapping aircraft and more. These actions allow the sub-system to optimize issued schedule or the outputs of the previous 02 sub-systems to satisfy the listed pre-determined goals.	30		
		0	The supplier fails to provide sufficient supporting materials to demonstrate the sub-system's capability to optimize VN's long-term, seasonal, and under-season schedule, by strategically and tactically increase/ decrease frequencies, re-rotate schedule, swapping aircraft and more. OR, Through the provided supporting materials, VN cannot conclude that the sub-system is ability to carry out the required assignments, OR can conclude that this sub-system cannot perform the tasks expected by VN. Further enquiries from VN for extra information are not sufficiently met. OR, Through the provided supporting materials, VN can conclude that the sub-system cannot set any of the three optimizing goals listed in this criteria.			
1.2	<p>The supplier should provides contact point(s) from current consumers for VN to validate the functionality of the sub-system, along with the evident of the system's main function and capability. Evident include but not limited to:</p> <ul style="list-style-type: none"> + Standalone demo project using VN's assumptions. + Written confirmation from other customers regarding the achievability of the sub-system in terms of output. 	20	The supplier can provide more than 02 contact point(s) from current customers for validation purposes along with evident of the system's main function and capability. The contact points are considered valid if VN can reach out and receive feedback from these personnels regarding the sub-system in questions			
		10	The supplier can provide at least 02 contact point(s) from current customers for validation purposes. The contact points are considered valid if VN can reach out and receive feedback from these personnels regarding the sub-system in questions	10		
		0	The supplier cannot provide any forms of evident, including the contact point(s) from current customers for validation purposes			
1.3	<p>The supplier describes extensively the differences in approaches, parameters, operation rules, and all inputs when the sub-system optimizes a long-term schedule (at least 3+ years), versus when it optimizes a seasonal or under-season schedule</p>	10	The supplier can provide clear explanation on the differences of these 02 specific use cases, supported by tutorial videos, written descriptions, or demos	10		
		0	The supplier can only provides limited explanation and supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to help VN differentiate the sub-system's approaches towards these 02 specific use cases. Additionally, VN's requests for more information are not efficiently met. OR, The supplier fails to provide any explanations or supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to help VN differentiate the sub-system's approaches towards these 02 specific use cases. OR, Through the provided materials, VN can conclude that the sub-system treats these 02 use cases with a similar approach, set of parameters, operation rules, and inputs.			
	Input data	30		30		

No	Criteria	Score			Related documents	Supplier's references
		Band Score	Description of Band Score	Minimum Score		
2	The sub-system utilizes different categories of input data to facilitate the optimization process, including but not limited to: + Schedule from VN's scheduling system or from the output of the other 02 sub-systems; + Subfleet and fleet data; + Market demand data from the other 02 sub-systems; + Revenue & cost data from the other 02 sub-systems; + Rules and restrictions	30	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to explain in details the process of inputting data into this sub-system. The supplier makes written commitment to assist VN in building intermediary platform for inputs in necessary. The supplier provides detailed explanation if they believe that the building of an intermediary platform is not necessary	30		
		0	The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to explain in details the process of inputting data into this sub-system. Further enquiries by VN for extra information are not sufficiently met. OR, The supplier does not make written commitment to assist VN in building intermediary platform for inputs. OR, The supplier fails to provide any explanation to support their claim that building an intermediary platform for inputs is not necessary			
3	Functionality and methodology	120		115		
3.1	The supplier explains the methodology behind the sub-systems, in which the following information should, at minimum, be included: + The methodology and algorithm behind the sub-system; + The process of generating and choosing the optimized schedule that is most suitable to the user's pre-determined goals; + The available optimization objectives (economic and non-economic) that the users can define before the optimization process. The sub-system should provides, at minimum, 04 optimization objectives, which are: minimizing cost, maximizing revenue, maximizing profitability, and maximizing aircraft utilization (assessed by block hours/ day)	30	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to clearly explain the requested information. Through the provided materials, VN can also conclude that the sub-system can facilitate the minimum required optimization objectives	30		
		0	The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to clearly explain the requested information and demonstrate the sub-system's capability to facilitate the requested optimization objectives. Further requests from VN for extra information are not sufficiently met. OR, Through the provided materials, VN can conclude that this sub-system is incapable of providing any of the three listed objectives			
3.2	The sub-system provides at minimum 02 modes of optimization: + Basic mode in which the only eligible optimization actions are retiming, reflecting. + Cancellation mode in which cancelling flights is also allowed	40	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate both modes of the optimization process.	40		
		0	The supplier fails to provide adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate both modes of the optimization process, or the sub-system is incapable of providing any of the requested modes. OR, Through the provided materials, VN can conclude that the sub-system does not have either of the required optimization modes			
3.3	The sub-system allows users to set up a variety of rules and constraints to further justify and simulate the realistic operating conditions, thereby improving the quality of the optimization process. The sub-system should facilitate, at minimum, the following rules and constraints: - Basic rules that govern the behaviors and outcomes of the sub-system: + Rules that restrict ASK, distance, BH, number of aircraft per subfleet, seat capacity, number of swaps, flight number, location of aircraft (e.g. cannot be stationed in DAD and must be in either HAN or SGN) ... for legs, itineraries, sub fleets, fleets, ... + Rules that control spill or cancellation actions; + Rules that govern the use of sub fleets, fleets, which can, e.g. forbid the use of a specific subfleet on an itinerary, or limit the number of sub fleets/ fleets that can operate a certain route. + Rules/ restrictions that reflect scheduled and/or prolonged activities like maintenance, pilot training, VIP flights, The sub-system also enables users to group certain routes, subfleets that are under the influence of similar rules/ restrictions.	40	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the sub-system's capability to allow the creation and modification of the required rules/ restrictions. Furthermore, the supplier makes written commitment to provides consultation during the implementation process to advise the most efficient maneuver of the listed rules	40		
		0	The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the sub-system's capability to allow the creation and modification of the required rules/ restrictions. Further requests from VN for extra information are not sufficiently met. OR, Through the provided materials, VN can conclude that the sub-system cannot satisfy any of the requirement listed in criteria 3.3. OR, The supplier does not make written commitment to provide consultation during the implementation process to advise the most efficient maneuver of the listed rules.			
3.4	The sub-system allows users to define any rules or restrictions as hard or soft penalties, in which: + Hard penalty cannot be violated; + Soft penalty can be violated at a cost, which can be freely set up by the users. And also specify which rules/restrictions can be identified as hard or soft penalties.	10	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the sub-system's capability to accomplish the required tasks.			
		5	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the sub-system's capability to accomplish the required tasks. However, the provided materials are deemed insufficient and less extensive compared to the band score above	5		
		0	The supplier fails to provide supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the sub-system's capability to accomplish the required tasks. Further enquiries from VN for extra information are not efficiently met. OR, Through the provided material, VN can conclude that the sub-system is incapable of doing the required task.			
4	Output of the sub-system	30		15		

No	Criteria	Score			Related documents	Supplier's references
		Band Score	Description of Band Score	Minimum Score		
4.1	The sub-system generates a re-fleeted schedule, which can subsequently be handled as either input for the Network Scenario Forecasting sub-system, or VN's scheduling system	10	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate that the sub-system is capable of generating the desired output, as well as the process of transferring this output to/ from other sub-systems in the solution and VN's scheduling system.			
		5	The supplier provides supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate that the sub-system is capable of generating the desired output, as well as the process of transferring this output to/ from other sub-systems in the solution and VN's scheduling system. However, the provided materials are deemed insufficient and less extensive compared to the band score above.	5		
		0	The supplier fails to provide adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate that the sub-system is capable of generating the desired output, as well as the process of transferring this output to/ from other sub-systems in the solution and VN's scheduling system. Further enquiries from VN for extra information are not efficiently met.			
4.2	The sub-system provides built-in reporting and visualization templates including but not limited to: + Summary report that provides the key KPIs of the re-fleeted schedule; + Optimization setting report that shows the parameters in use; + Rules and constraints report that shows the rules and constraints set by the user; + Penalty report that shows the penalties given in the optimization process; + Utilization details report that shows the aircraft utilization KPIs per subfleet, e.g. average aircraft utilization per day per week, categorized by inventory (total aircraft), by used aircraft + Reports that displays the changes before and after the optimization process per leg, per station, per country-pair + Cancelled, retimed, rotated flights, swap analysis report that shows the changes not only in rotations but also in profitability of the re-fleeted output. + Reports about connections (forced, missing, potential)	20	The supplier provides only supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the reporting capabilities of this sub-system without any demos. Furthermore, the provided materials are deemed insufficient and less extensive compared to the band score above			
		10	The supplier provides adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the reporting capabilities of this sub-system. Through the provided materials, VN can conclude that the system has the requested reporting templates and also provides more templates that are deemed beneficial.	10		
		0	The supplier fails to provide adequate supporting materials (written functional description, tutorial videos, face-2-face demos, ...) to demonstrate the reporting capabilities of this sub-system. Further enquiries made by VN for extra information are not efficiently met.			
III	Training and Customer Service	70		55		
III.1	Training agenda	60		55		
1	The supplier provides a comprehensive agenda that covers all the basic elements for the sub-systems in the NPP solution. The talking points for each sub-system should, at minimum, include: + Maintaining and updating different data sets for each sub-system; + Explanation on the methodology, algorithm, calculation process; + Input data and transferring input data from VN's data sources to the sub-system; + Operating various built-in analyzing tools and models in each sub-system; + Modifying different components, rules, restrictions, factors in each sub-system; + Managing the output of each sub-systems; + Using various reporting and visualization templates in each sub-system; + Reporting bugs and technical issues; + Accessing supporting materials such as functional descriptions, manuals, ...	30	The supplier provides a comprehensive training agenda that covers more than just the listed talking points, with the additional points of discussion deemed as practical by VN.	30		
		0	The supplier provides a training agenda that covers only the listed talking points, without any suggestions from the supplier. OR, The supplier fails to include any of the listed talking points in the training agenda.			
2	The supplier provides be-spoke training agenda for different groups of users based on their responsibility in operating the NPP solution. Be-spoke training agenda should be provided to, at minimum, the following user group: + End-users who will utilize the solution on a daily basis and modify various components as listed in the criteria regarding the sub-systems above; + Data managers that will maintain various data groups in each sub-system in the NPP solution; + IT coordinator that will provide technical support and work together with the supplier during i.e. updating events.	20	The supplier provides and transparently justifies the training agenda for each user group, providing at minimum the following details: + Total length and specific timeline of the training period; + The number, length, objectives, deliverables of each lesson in the agenda; + Preparation requirements (infrastructure, data, ...)	20		
		0	The supplier provides a series of training agenda, yet the provided information is deemed as insufficient and less extensive compared to the band score above, thus, cannot cover the different assignments for each user group. OR, The supplier provides a generic training agenda for all user groups.			
3	The supplier proposes training agenda and know-how sharing workshops (public for all users or private for VN) that potentially take place at minimum one year into using the NPP solution. These additional sessions aim at: + Further refining VN's understanding of the solution's capability, thus, allows VN to improve the efficiency of using the solution; + Revising the basic functions of the NPP solution; + Providing know-how and sharing best practices (by other users) to utilize the NPP solution.	10	The supplier provide clear information, tentative schedule, and estimated fee for the additional training and know-how sharing workshops. The provided information is deemed as practical by VN.			
		5	The supplier mentions the prospect of organizing additional training and know-how sharing workshops but fails to provide any information, tentative schedules, and estimated fee for these sessions.	5		
		0	The supplier disregards the prospect of organizing additional training and know-how sharing workshops.			
III.2	Customer service	10		0		
	The supplier provides a platform or forum where users can attempt at minimum the following tasks:	10	The supplier provides a platform/ forum that suits VN's expectations and registers current and potential VN's users without incurring additional cost.			

No	Criteria	Score			Related documents	Supplier's references
		Band Score	Description of Band Score	Minimum Score		
1	+ Report bugs, issues; + Receive update schedules and patches information; + Connect with other users and suppliers' experts to improve users' expertise in using the solution; + Access document archives consisting of training materials, case studies, functional description,...	5	The supplier provides a platform/ forum that suits VN's expectations but sets a limit on the number of user accounts.			
		0	The supplier does not provide a platform/ forum that suits VN's expectations.	0		
IV	Total	1000		722.5		