

Membership Guidelines for Helix Nebula, the Science Cloud

Version 1.0, September 2012

I Introduction

1. Over the next two years the Helix Nebula Consortium is expected to involve an increasing number of members.
2. The potential members are likely to be stemming from the categories below:
 - a) **Users:**

An organisation that applies to become a user member should be a science or space organisation and commit to provide at least one flagship use case for cloud computing that can be verified and validated through a Proof of Concept with multiple service providers. The flagship use case should fulfil a minimum set of criteria as defined in Attachment A (see page 4). Users will name a representative to participate in regular meetings of the Helix Nebula Users Board.
 - b) **Service Providers:**

An organisation that applies to become a service provider member should commit to support a minimum set of cloud computing services as defined in Attachment B (see page 6) and perform at least one Proof of Concept of a flagship use case with a user. Service Providers can apply to one or more of the following categories: Connectivity Provider, Infrastructure-as-a-Service Provider (IaaS) Platform-as-a-Service Provider (PaaS), Software-as-a-Service Provider (SaaS), Integrator, Consultant or Broker¹. Service Providers will name a representative to participate in regular meetings of the Helix Nebula Service Providers Board.
 - c) **Adopters:**

An organisation may apply to become an adopter, if they initially do not want to be directly involved in the flagship use cases but wish to make use of the Helix Nebula's products and services on a pay-per-use basis and be able to provide feedback. Adopters may be invited to Boards (either Service Providers or Users) meetings for information purposes. Adopters will name a representative to be informed or invited by the Helix Nebula Consortium on a regular basis.
 - d) **Interested Parties:**

An organisation may apply to become an Interested Party, if they initially do not want to be directly involved in the flagship use cases but wish to be kept informed of the work of or use information provided by the Consortium.

¹ Definitions are provided in Attachment B.

3. For all types of members a formal acceptance procedure will apply (specified hereafter), to be implemented by the Helix Nebula Management Team following the receipt of the membership request. Membership application implies acceptance of the vision of Helix Nebula as outlined in the strategic plan² and willingness to collaborate with the other partners in order to achieve the vision. The final decision on acceptance of a member will be taken by the Helix Nebula Management Team based on consensus decision-making. All decisions must be adopted by consensus of both the user organisations and service provider companies. In case of lack of consensus, decision will be taken by a qualified majority of all members of the two Boards, which must include the positive vote of the public user organisations.
4. All users and service providers applying to become a member of the Helix Nebula Consortium (except as an Interested Party) agree to sign a multi-lateral NDA prior to becoming an active member.

II European character of a potential service provider member

5. In view of the overarching purpose of the Helix Nebula Consortium, i.e. to promote European Cloud Computing innovation and services for European Science and Industry, the potential member has to qualify as “European”, irrespective of the form of the envisaged membership.
6. “European” member for the purpose of the Helix Nebula Consortium shall comprise candidates from the EU Member States and the EU FP7 eligible countries. The exact list of these countries is mentioned in [http://cordis.europa.eu/fp7/who_en.html].
7. As “European” in the sense of these Guidelines shall be considered those organisations who:

are registered at EU FP7 as a participant and, consequently, have been attributed an EU FP7 PIC code

or

are not registered at EU FP7 as a participant, but fulfil the following criteria for an organisation working in an EU Member State or FP7 eligible country:
 - a) Location of the potential member’s registered office
 - b) Location of the decision-making when implementing the membership
 - c) Territory on which the membership activities would be carried out
8. In case of an alleged “European” subsidiary of a mother company registered in a country outside of those mentioned under para. 5 above and not having been

² Strategic Plan for a Scientific Cloud Computing infrastructure for Europe, CERN-OPEN-2011-036, August 2011, <http://cdsweb.cern.ch/record/1374172>

attributed an EU FP7 PIC code, the following two criteria have to be fulfilled, in addition to those mentioned above under 6 b):

- Local management of the subsidiary
 - Subsidiary's staff permanent place of work
9. In case the criteria mentioned under para. 6. and/or 7. are met in a way allowing the potential sponsor to be considered "European" in the sense of this document, but a conflict with the provisions of para. 4 could be expected in the view of at least one of the Initiating Partners, the Initiating Partners shall decide on this issue with unanimity.
10. As a matter of principle, membership is open for all companies qualified as "European" in the sense of Chapter II above.

Attachment A: Specification Template for Helix Nebula Cloud Computing Flagship Use Cases

Introduction

User organisations applying for membership status in the Helix Nebula consortium need to provide at least one flagship use case for cloud computing that can be verified and validated through a Proof of Concept with multiple Helix Nebula service providers. The purpose of this document is to help new user organisations to understand the minimum requirements. Based on this template proposers will be guided through the specification of a new flagship use case so that the requirements can be captured in a defined format.

The Helix Nebula consortium represents a public-private partnership of some of Europe's biggest science and space centres and leading IT providers in Europe who have teamed up to establish Helix Nebula, the Science Cloud. Following a Strategic Plan for a Scientific Cloud Computing infrastructure for Europe³, Helix Nebula will be the first major step towards a sustainable European Cloud Computing infrastructure. It will provide, initially, an R&D European Cloud Computing Infrastructure that serves the need of European Research Area (ERA) and Space Agencies. Furthermore, it will have a clear potential beyond this initial user base to offer similar services to a broad range of customers including government and SMEs. The initial focus will be on Infrastructure-as-a-Service (IaaS) which can be used to quickly support a small number of scientific flagship use cases. These flagship use cases will be proposed by user organisations and chosen for their scientific challenge with societal impact, ability to profit from existing services on the supply-side, community building aspects and innovation potential that will help form the private-public partnership. As such, all flagships must propose some innovation in terms of functionality, performance, scope, business opportunities or impact of the European Cloud Computing infrastructure. The flagship use cases must be sponsored by user organisations and will be selected so as to be complementary and maximise coverage of the objectives outlined in the Strategic Plan. The flagship use cases will be implemented as part of an initial pilot phase lasting no more than two years. The purpose of this template is to ensure sufficient information is gathered about the proposed flagships as needed by the selection and planning process.

The Helix Nebula supply-side will work closely with the flagship use case proposers to determine what features and capabilities of Cloud computing environments are needed to support the type of computing exemplified by the selected use cases.

³ Strategic Plan for a Scientific Cloud Computing infrastructure for Europe, CERN-OPEN-2011-036, August 2011, <http://cdsweb.cern.ch/record/1374172>

Flagship proposers must be prepared to contribute their own resources during the pilot phase in order to port the application to the cloud infrastructure and contribute to the cost of procuring the required services from the supply-side.

The Flagships must be high-profile applications that can catch the public imagination and act as very visible use cases to encourage others to use the services. Important characteristics of the flagship projects may include the need for a significant scale of resources, federation/aggregation of data sets, long-term archiving of data and on- demand processing by a global user community. The impact of flagships on the user community and how the cloud deployment will become an integral part of the research environment are of great importance.

Proposers must be prepared to share information about the flagship applications, their scientific objectives, technical requirements and results so that the infrastructure can be established, improved and promoted to a wider audience. A business case study will be an important part of the pilot phase and the flagship proposing organisation must be prepared to participate in a costing exercise where the total cost of deploying and operating the flagship application on in-house resources can be compared to the cost of procuring the services via the European Cloud Computing infrastructure.

Proposers are asked to complete the application form which can be downloaded from www.helix-nebula.eu. Please limit your responses to a maximum of one page of text per question. If you have references that can provide additional information then please include them in your response.

The completed document should be returned to contact@helix-nebula.eu.

Attachment B: Specification Template for Helix Nebula Supplier Membership

Introduction

Supply-side organisations (service providers) applying for membership status in the Helix Nebula consortium need to support at least one flagship use case for cloud computing. A flagship use case is verified and validated through a Proof of Concept with multiple Helix Nebula service providers. The purpose of this document is to help new supply-side organisations to understand the minimum requirements. Based on this template service providers will be guided through the specification of a cloud computing service so that the requirements can be captured in a defined format.

The Helix Nebula consortium represents a public-private partnership of some of Europe's biggest science and space centres and leading IT providers in Europe who have teamed up to establish Helix Nebula, the Science Cloud. Following a Strategic Plan for a Scientific Cloud Computing infrastructure for Europe⁴, Helix Nebula will be the first major step towards a sustainable European Cloud Computing infrastructure. It will provide, initially, an R&D European Cloud Computing Infrastructure that serves the need of European Research Area (ERA) and Space Agencies. Furthermore, it will have a clear potential beyond this initial user base to offer similar services to a broad range of customers including government and SMEs. The initial focus will be on Infrastructure-as-a-Service (IaaS) which can be used to quickly support a small number of scientific flagship use cases. These flagship use cases will be proposed by user organisations and chosen for their scientific challenge with societal impact, ability to profit from existing services on the supply-side, community building aspects and innovation potential that will help form the private-public partnership.

As such, all service providers must support IaaS cloud computing with some innovation in terms of functionality, performance, scope, or impact of the European Cloud Computing infrastructure. Service Providers can apply to one or more of the following categories: Connectivity Provider, Infrastructure-as-a-Service Provider (IaaS), Platform-as-a-Service Provider (PaaS), Software-as-a-Service Provider (SaaS), Integrator, Consultant or Broker. The service provider membership should be implemented for the pilot phase lasting until end of 2013. The purpose of this template is to ensure sufficient information is gathered about the service provider capabilities as needed by the selection and planning process.

The Helix Nebula users will work closely with the service provider to determine what features and capabilities of Cloud computing environments are needed to support the selected flagship use cases.

⁴ Strategic Plan for a Scientific Cloud Computing infrastructure for Europe, CERN-OPEN-2011-036, August 2011, <http://cdsweb.cern.ch/record/1374172>

Service providers must be prepared to contribute their own resources during the pilot phase in order to setup the cloud services and contribute to the cost of performing the required services for the users.

The cloud computing service must be open and transparent to be used in combination with other service provider services to encourage a broad acceptance amongst users. Important characteristics of the services may include the need for a significant scale of resources, federation/aggregation of data sets, long-term archiving of data and on-demand processing. The integration of the providers services within the Helix Nebula environment are of great importance.

Service providers must be prepared to share information about their cloud deployments, their business objectives, technical features and performance so that the services can be established, improved and promoted to a wider audience. A business case study will be an important part of the pilot phase and the service provider must be prepared to participate in a costing exercise where the total cost of deploying and operating the flagship application on in-house resources can be compared to the cost of procuring the services via the Helix Nebula.

Service providers are asked to complete the application form which can be downloaded from www.helix-nebula.eu. Please limit your responses to a maximum of one page of text per question. If you have references that can provide additional information then please include them in your response.

The completed document should be returned to contact@helix-nebula.eu.

Service Provider Category Definitions

Connectivity Provider

The capability to provide connectivity and transport of cloud services from cloud providers to cloud consumers.

Infrastructure-as-a-Service (IaaS)

The capability provided to the consumer is to provision processing, storage, networks, and other fundamental computing resources where the consumer is able to deploy and run arbitrary software, which can include operating systems and applications. The consumer does not manage or control the underlying cloud infrastructure but has control over operating systems, storage, and deployed applications; and possibly limited control of select networking components (e.g., host firewalls).

Platform-as-a-Service (PaaS)

The capability provided to the consumer is to deploy onto the cloud infrastructure consumer-created or acquired applications created using programming languages, libraries, services, and tools supported by the provider. The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, or storage, but has control over the deployed applications and possibly configuration settings for the application-hosting environment.

Software-as-a-Service Provider (SaaS):

The capability provided to the consumer is to use the provider's applications running on a cloud infrastructure. The applications are accessible from various client devices through either a thin client interface, such as a web browser (e.g., web-based email), or a program interface. The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, storage, or even individual application capabilities, with the possible exception of limited user-specific application configuration settings.

Integrator

The capability to manage the complexities of cloud implementations and migrations and to integrate cloud services into consumers environments.

Consultant

The capability to advise consumers on how best to use cloud computing technology to meet their business objectives. In addition to providing advice it may encompass estimations, management, implementation, deployment, and administration of Cloud Computing systems on consumers' behalf.

Broker

The capability to manage the use, performance and delivery of cloud services, and negotiates relationships between cloud providers and cloud consumers.