Master Thesis Subjects

Title: Software-Defined networking (SDN) and cloud computing

Location: Telecom SudParis

Home Department:

Contacts: Professor Djamal Zeghlache (djamal.zeghlache@telecom-sudparis.eu)

Targeted trainer: Master

Duration: 6 months.

Context: Software-defined networking (SDN) is an approach for building computer networks that separates and abstracts elements of these systems. SDN allows system administrators to quickly provision network connections on the fly, instead of manually configuring policies. This has become more important with the emergence of virtualization which an enterprise data center may need to create and configure virtual machines (VMs) remotely, and configure firewall rules or network addresses in response. Many approaches exist to resolve this issue, such as Virtual LANs, but this may also introduce management issues. SDN allows network administrators to have programmable central control of network traffic without requiring physical access to the network's hardware devices.

Objectives: In this context, the proposed master thesis is aimed to study, design and implement/evaluate the way software-defined networking concepts may be applied in cloud computing. The main focus shall be placed on the functionalities of cloud computing, the respective functionalities of software-defined networking and their combination, so as to produce an effective computing mechanism. The end of the master thesis will be devoted to the preparation of the report summarizing the evaluation results and a research paper to be submitted for publication.

Expected competencies:

- Autonomy in programming and computing lab experimentation
- Previous experience in programming skills with tools/languages, in particular C/C++, Java, Ruby, Python, experience in RESTful APIs, JSON, XML
- Good knowledge in networking / telecom
- Ability to quickly grasp the context and content of design features.

Για περισσότερες πληροφορίες παρακαλώ επικοινωνήστε με τον κ. Παναγιώτη Δεμέστιχα (pdemest(-at-)unipi(-dot-)gr) και τον κ. Κωνσταντίνο Τσαγκάρη (ktsagk(-at-)unipi(-dot-)gr).

Title: Software-Defined networking (SDN) and wireless networks

Location: Telecom SudParis

Home Department:

Contacts: Professor Djamal Zeghlache (djamal.zeghlache@telecom-sudparis.eu)

Targeted trainer: Master

Duration: 6 months.

Context: Software-defined networking (SDN) is an approach for building computer networks that separates and abstracts elements of these systems. SDN allows system administrators to quickly provision network connections on the fly, instead of manually configuring policies. This has become more important with the emergence of virtualization which an enterprise data center may need to create and configure virtual machines (VMs) remotely, and configure firewall rules or network addresses in response. Many approaches exist to resolve this issue, such as Virtual LANs, but this may also introduce management issues. SDN allows network administrators to have programmable central control of network traffic without requiring physical access to the network's hardware devices.

Objectives: In this context, the proposed master thesis is aimed to study, design and implement/evaluate the way software-defined networking concepts may be applied in wireless networks. The main focus shall be placed on the functionalities of wireless networks, the respective functionalities of software-defined networking and their combination, so as to produce an effective wireless computing mechanism. The end of the master thesis will be devoted to the preparation of the report summarizing the evaluation results and a research paper to be submitted for publication.

Expected competencies:

- Autonomy in programming and computing lab experimentation
- Previous experience in programming skills with tools/languages, in particular C/C++, Java, Ruby, Python, experience in RESTful APIs, JSON, XML
- Good knowledge in networking / telecom
- Ability to quickly grasp the context and content of design features.

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Title: Software-Defined networking (SDN) in social networks

Location: Telecom SudParis

Home Department:

Contacts: Professor Djamal Zeghlache (djamal.zeghlache@telecom-sudparis.eu)

Targeted trainer: Master

Duration: 6 months.

Context: Software-defined networking (SDN) is an approach for building computer networks that separates and abstracts elements of these systems. SDN allows system administrators to quickly provision network connections on the fly, instead of manually configuring policies. This has become more important with the emergence of virtualization which an enterprise data center may need to create and configure virtual machines (VMs) remotely, and configure firewall rules or network addresses in response. Many approaches exist to resolve this issue, such as Virtual LANs, but this may also introduce management issues. SDN allows network administrators to have programmable central control of network traffic without requiring physical access to the network's hardware devices.

Objectives: In this context, the proposed master thesis is aimed to study, design and implement/evaluate the way software-defined networking concepts will be implemented in the social networks platforms. The main focus shall be placed on the functionalities that SDN will add in the social networks, seamless features for being able to most efficiently add third party applications on the platform. Therefore, through this master thesis a mechanism for incorporating SDN in social networks platforms is aimed to be developed. The end of the master thesis will be devoted to the preparation of the report summarizing the evaluation results and a research paper to be submitted for publication.

Expected competencies:

- Autonomy in programming and computing lab experimentation
- Previous experience in programming skills with tools/languages, in particular C/C++, Java, Ruby, Python, experience in RESTful APIs, JSON, XML
- Good knowledge in networking / telecom
- Ability to quickly grasp the context and content of design features.

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