XIFI

eXperimental Infrastructures for the Future Internet

Process for Joining

Infrastructure Owners Training - Basic

www.fi-xifi.eu

FUTURE INTERNET PPP

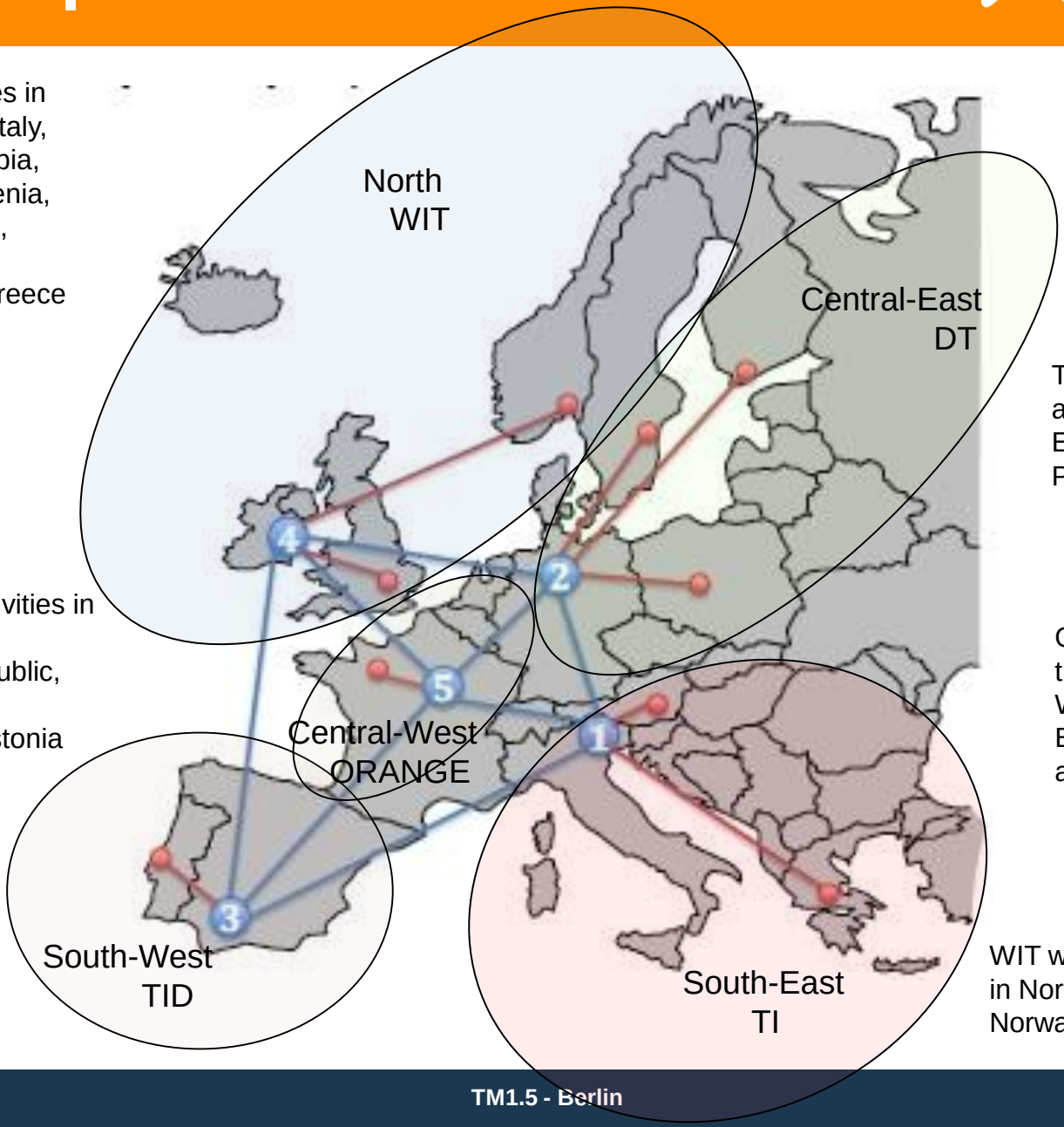
SEVENTH FRAMEWORK PROGRAMME

Agenda

- Geographical Partition
- XIFI Federation Process
- Deployment Steps
- Cloud portal
- Keystone Proxy
- MD-VPN

Geographical Partition

TI will support activities in South-East Europe (Italy, Austria, Hungary, Serbia, Croatia, Bosnia, Slovenia, Slovakia, Montenegro, Albania, Macedonia, Bulgaria, Romania, Greece and Turkey).



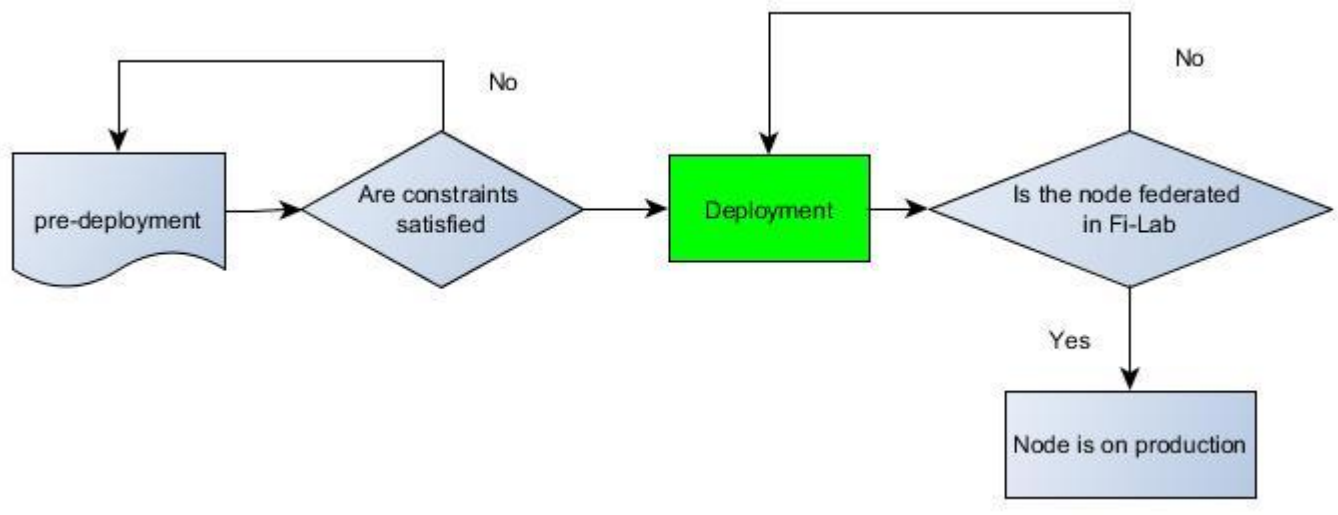
TID will support the activities in South-West Europe (Spain and Portugal).

DT will support the activities in Central-East Europe (Germany, Czech Republic, Denmark, Poland, Switzerland, Latvia, Estonia and Lithuania).

ORANGE will support the activities in Central-West Europe (France, Belgium, Netherlands and Luxemburg).

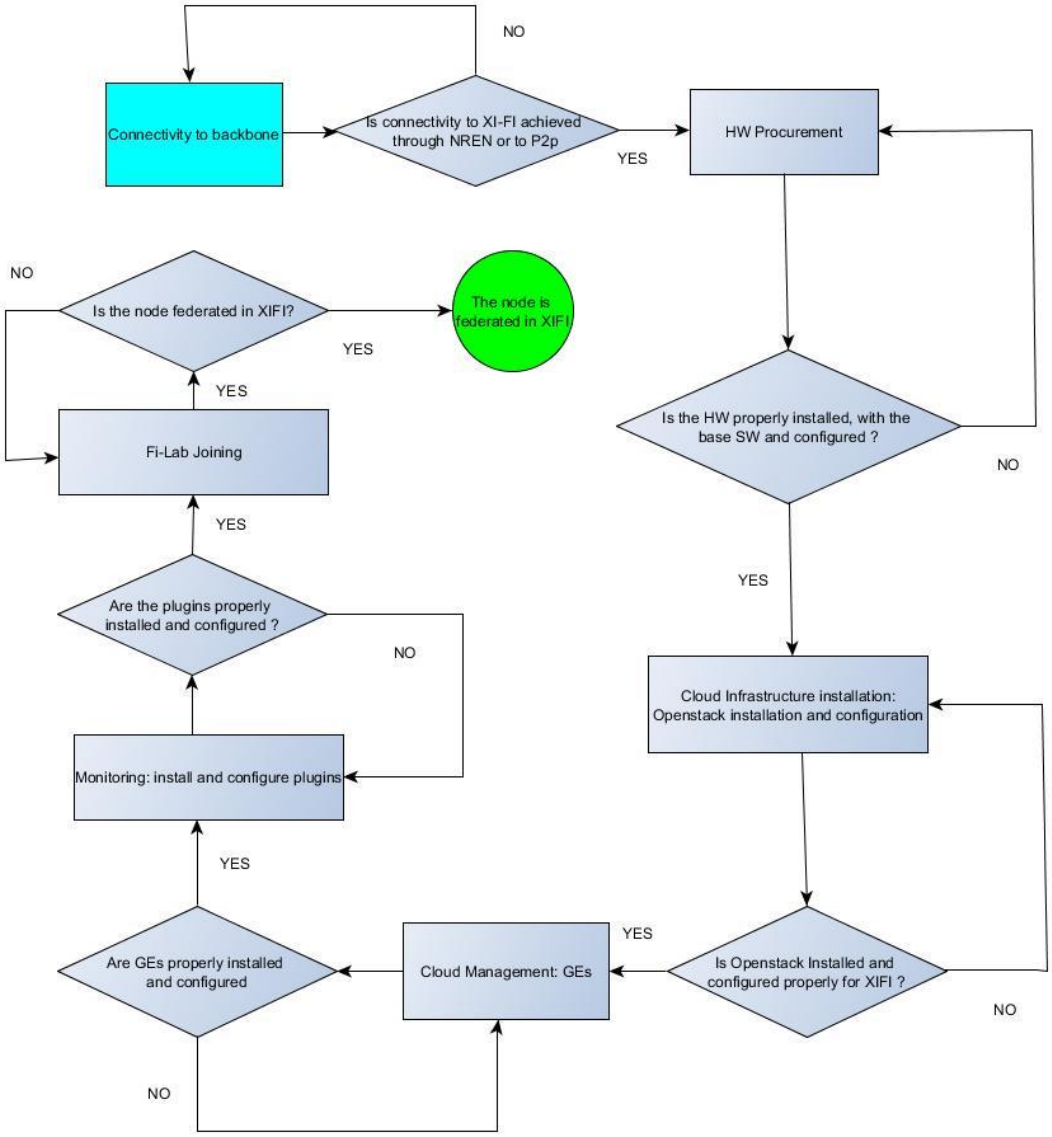
WIT will support the activities in North Europe (Ireland, UK, Norway, Sweden and Finland).

XI-FI Federation Process



- The Federation process manages the introduction of a new node in the XIFI federation, an important step of this phase is the deployment
- In terms of XIFI lifecycle, the Deployment of a new node in XI-FI stands before the node production phase and the after the open call
- In order to successfully finish the deployment of a new node, some constraints has to be satisfied:
  - connection to GEANT (or P2P internet VPN as backup solution)
  - Hardware procurement
- The deployment ends when the XIFI node in on production (when a node in on production is not a new node anymore !) and is managed by XIFI support

Deployment Steps



Deployment has been partitioned as follows:

- **Connectivity to XIFI Core Backbone:** MD-VPN connectivity through the local NREN
- **HW procurement**: It means hardware procured and deployed with the base operating system
- **Cloud Infrastructure Installation:** this is basically the OpenStack installation (included in ITBox)
- **Cloud Management (GE):** This step is inside ITBox, otherwise a manually installation of the needed GEs is required.
- **Monitoring:** This step is inside ITBox, otherwise a manually installation of the needed nagios plugins is required.
- **Fi-Lab Joining**: This is essentially the installation and configuration of the Keystone Proxy module.

Note: Connectivity to XIFI backbone is mandatory for Monitoring and Fi-Lab Joining but not for Cloud Installation and Management

Cloud Portal - Integration

- Provides the federation portal that allows to manage Fi-Lab platforms in federated mode
- It requires to create user accounts on FI-Lab
  - https://account.lab.fi-ware.org/
- Other requirements
  - MD-VPN connectivity
  - Keystone Proxy connectivity
  - DCRM GE installed

Keystone Proxy - Integration

- The keystone proxy provide the access to federation Idm
- Actually one instance of Keystone proxy is running in the Spanish node
- Requirements
  - Update the catalogue (impacts all nodes)
  - Configure the Firewall policies to allow communications with remote nodes

Keystone Proxy - Integration

- Impacts
  - Data on the local keystone (users, tenants, …) is lost
  - VMs and their configuration remains but are not accessible through the federation portal

MDVPN - Integration

- Provides the federation connectivity across the nodes
  - Privacy
  - Security
  - Traffic Engineering on the backbone possible
- MD-VPN is created on top of the NREN connection
  - Typically delivered on a VLAN
  - Dedicated VRF should be used
  - BGP is used to exchange routing across the nodes

MDVPN - Integration

- The setup must be discussed with local NRENs
- Federation IP addressing plan
  - per node configuration available on D5.2
  - must be implemented on the network in which all the federation related hosts are connected
- It is possible to provide backup solutions based on P2P VPN.
  - important delay of deployment of the NREN
  - if the NREN do not provide MD-VPN service
  - the Infrastructure can’t get NREN connectivity

Questions

Thank you for your attention!

Find us at www.fi-xifi.eu

Acknowledgments:

The research conducted by XIFI receives funding from the European Commission FP7 under grant agreement N° : 604590. The European Commission has no responsibility for the content of this presentation.