UNIVERSITY of HOUSTON YOU ARE THE PRIDE

COLLEGE of TECHNOLOGY

UNIVERSITY of HOUSTON YOU ARE THE PRIDE	OpenFlow/SDN Manager	UNIVERSITY of HOUSTON YOU ARE THE PRIDE	OpenFlow/SDN I
Home Capable Switch Configuration Point Logical Switch LS Capability Controller Resources Port Queue	Logical Switch Logical Switch Enabled Status UP Logical Switch ID • logical-switch0 Data Path • 00:00:00:04:23:b7:19:03 Controller Certificate • undefined Connection Behaviour • undefined	Capable Switch Configuration Point Logical Switch LS Capability Controller Resources Port Queue	 OpenFlow Capable Switch An OpenFlow Capable switch is a physical or virtual switching device whi OpenFlow Logical Switch. OpenFlow Capable Switches contain and manage with an OpenFlow Logical Switch context. OpenFlow Configuration Point An OpenFlow Configuration Point configures one or more OpenFlow Capa Management Protocol (OF-CONFIG). OpenFlow Logical Switch An OpenFlow Logical Switch is a set of resources (e.g. ports) from an Ope with a specific OpenFlow Controller. An OpenFlow Logical switch is an in OpenFlow Resource An OpenFlow Resource is a resource (e.g. port or queue) which is associate associated with an OpenFlow Logical Switch. OpenFlow Queue is a queuing resource of an OpenFlow Logical Switch queue component of an OpenFlow datapath. OpenFlow Port An OpenFlow Port is a forwarding interface of an OpenFlow Logical Switch the port component of an OpenFlow datapath. An OpenFlow Port may man
Home Capable Switch Configuration Point		Home Capable Switch Configuration Point	
Logical Switch LS Capability Controller Resources Port Queue	URI Protocol ssh	Logical Switch LS Capability Controller Resources Port Queue	UP Controller ID ? controller1 Role ? IP Address ? 100.1.2.3
			Port ?6633Local IP Address ?192.168.2.129Protocol ?tcpOF-Config Version ?1.2

- Implemented on ProtoGENI
- OF-Config: Network Management for OpenFlow networks
- DEMO: Displaing LINC Switch configurations through NETCONF using OF-Config specification
- OF-Config Specification uses NetConf as transport
- YangCli (YUMA) mechanism is used to get switch configurations
- GREE 2013 work in progress paper



which can act an as operational context for an nage OpenFlow Resources which may be associated

Capable Switches via the OpenFlow Configuration and

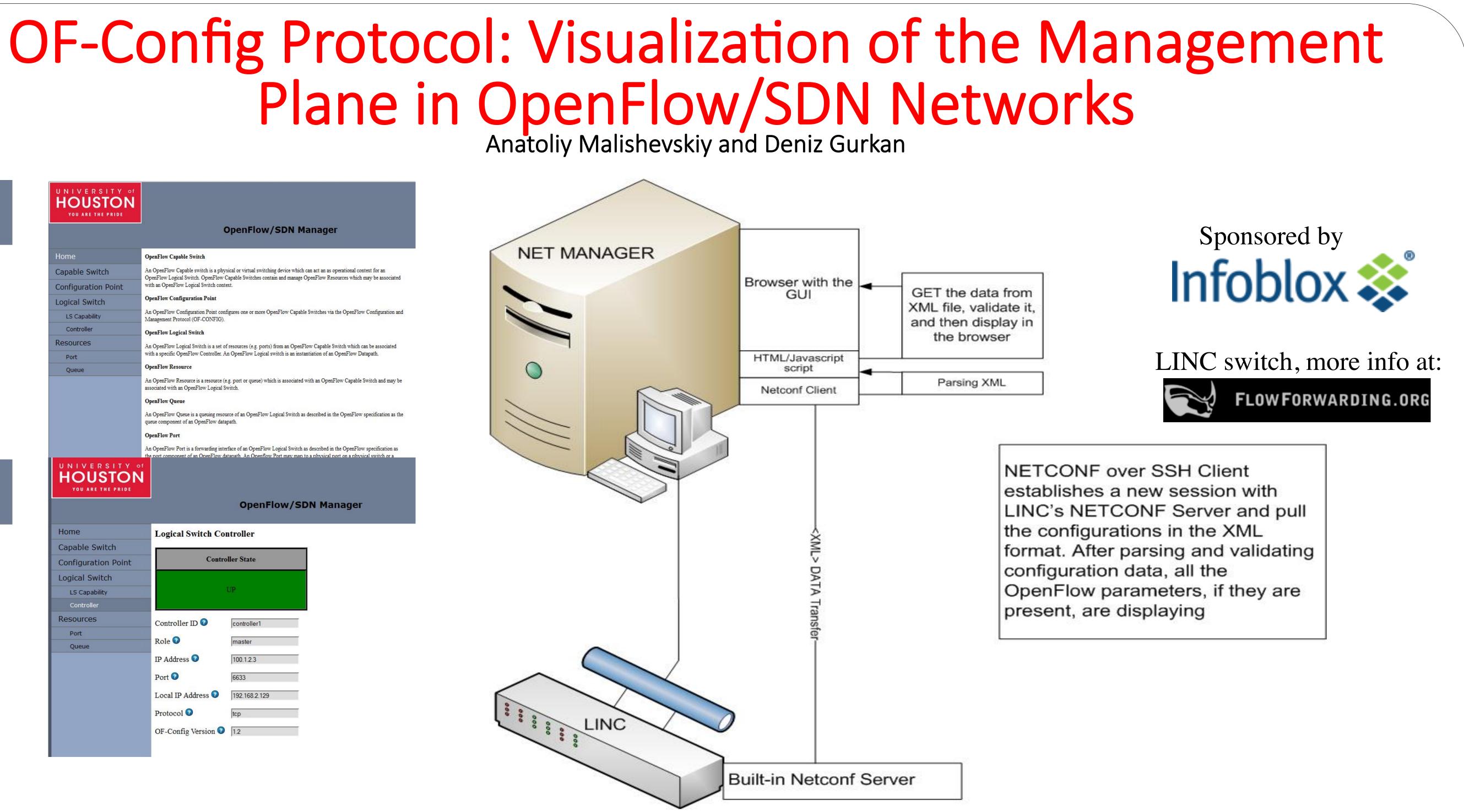
OpenFlow Capable Switch which can be associated nstantiation of an OpenFlow Datapath.

ciated with an OpenFlow Capable Switch and may be

itch as described in the OpenFlow specification as the

ritch as described in the OpenFlow specification as

SDN Manager



The data model for OF-Configurations Protocol is structured into classes and attributes of classes. Each class is described in a separate sub-section by XML, UML, and YANG. The core of the model is an OF Capable Switch that is configured by OF Configuration Points. Instances of OF logical switches are contained within the OF Capable Switch. A set of OF Controllers is assigned to each OF logical switch. When issuing a NETCONF "get-request" all elements in the requested sub-class or sub-tree must be returned in the result and then manipulation can be done.