

# Validation of IPv6 Network

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Validation Of IPv6 Network - Audit List					
Device	Device Details	Location	Operating System	Hardware Platform	Dual-Stack Compatibility
Switch	b101-s14	B101	Cisco IOS 12.2(53)SE2 (UNIVERSAL9)	Cisco 2960S	Verified and Compatible
Switch	b102-s1	B102	Cisco IOS 12.2(53)SE2 (UNIVERSAL9)	Cisco 2960S	Verified and Compatible
Switch	b103-s1	B103	Cisco IOS 12.2(53)SE2 (UNIVERSAL9)	Cisco 2960S	Verified and Compatible
Switch	b105-s1	B105	Cisco IOS 12.2(25)SE1 (LANBASE)	C290x Stacking	Verified and Compatible
Switch	b106-s1	B106	Cisco IOS 12.2(53)SE2 (UNIVERSAL9)	Cisco 2960S	Verified and Compatible
Switch	b107-s1	B107	Cisco IOS 12.2(53)SE2 (UNIVERSAL9)	Cisco 2960S	Verified and Compatible
Switch	b108-s1	B108	Cisco IOS 12.2(53)SE2 (UNIVERSAL9)	Cisco 2960S	Verified and Compatible
Switch	b202-s1	B202	Cisco IOS 12.2(53)SE2 (UNIVERSAL9)	Cisco 2960S	Verified and Compatible
Switch	b203-d1	B203 Rack P	Cisco IOS 12.2(53)SE2 (UNIVERSAL9)	Cisco 3560E	Verified and Compatible
Switch	b203-d2	B203 Rack P	Cisco IOS 12.2(53)SE2 (UNIVERSAL9)	Cisco 3560E	Verified and Compatible
Switch	b203-d3	B203 Rack P	Cisco IOS 15.0(1)SE3 (UNIVERSAL9)	Cisco 3560E	Verified and Compatible
Switch	b203-d4	B203 Rack P	Cisco IOS 15.0(1)SE3 (UNIVERSAL9)	Cisco 3560E	Verified and Compatible
Switch	b203-d2	B203 Rack F	Cisco IOS 12.1(6)EA2 (K9)422	Catalyst295012	Switch Down
Switch	b203-s3	B203 Rack S	Cisco IOS 12.0(5)SWCsa (CH25)	cat3548XL	Not Compatible due to IOS issue
Switch	b203-s4	B203 Rack S	Cisco IOS 12.0(5)SWCsa (CH25)	cat3548XL	Not Compatible due to IOS issue
Switch	b204-s1	B204	Cisco IOS 12.2(53)SE2 (UNIVERSAL9)	Cisco 2960S	Verified and Compatible
Server	dc1	B203 Rack S SC1-1	Microsoft Windows Server 2008 Datacenter	Intel i64	Verified and Compatible
Server	dc2	B203 Rack S SC2-1	Microsoft Windows Server 2008 Datacenter	Intel i64	Verified and Compatible
Server	HT1.soft.local	B203 Rack Q	ncisco IOS 15.1(3)T1 (UNIVERSAL9)	CISCO1941/K9	Server Down

Figure 1: IP Audit List

Validation Of IPv6 Network - IP Validation List						
Device	Device Details	Device Location	IPv4 Range	IPv6 Range	Status	Comments
Switch	B101-s14	B101	156.59.41.0/24	8241::/64	Validated	Working
Switch	b102-s1	B102	156.59.42.0/24	82c1::/64	Validated	Working
Switch	b103-s1	B103 34	156.59.43.0/24	8221::/64	Validated	Working
Switch	b105-s1	B105 28	156.59.45.0/24	82a1::/64	Validated	IPv6 Configuration not present in Switch ports.
Switch	b106-s1	B106 34	156.59.46.0/24	8261::/64	Validated	Working
Switch	b107-s1	B107 34	156.59.47.0/24		Validated	IPv6 Configuration is wrong in switch. IPv6 Configuration not present in Switch ports.
Switch	b108-s1	B108 34	156.59.48.0/24	82A1::/64	Validated	Same configuration on 105 switch for IPv6 range
Switch	b202-s1	B202 34	156.59.32.0/24	82e1::/64	Validated	Working
Switch	b203-d1	B203 Rack P 40			Validated	Working
Switch	b203-d2	B203 Rack P			Validated	Working
Switch	b203-d3	B203 Rack P			Validated	Working
Switch	b203-d4	B203 Rack P			Validated	Working
Switch	b203-s2	B203 Rack S	156.59.36.0/24		Validated	Switch Down
Switch	b203-s3	B203 Rack F 52			Validated	Working
Switch	b203-s4	B203 Rack S	156.59.33.0/24		Validated	Working
Switch	b204-s1	B204	156.59.34.0/24	8291::/64	Validated	Working
Server	dc1	B203 Rack S SC1-1 13				Configuration for IPv6 present on
Server	dc2	B203 Rack S SC2-1 13				

Figure 2: IP Validation List

## INTRODUCTION

The school of Business and IT at the Wellington Institute of Technology (WelTec) has its own computer network. Both the IPv4 and IPv6 are configured across the network. Since IPv6 schema was developed and deployed, additional lab space was allocated to the school of Business and IT. It is unclear whether the IPv6 schema was extended to accommodate the change and whether IPv6 configuration was extended to the additional workstation and network devices such as hardware and iOS.

This project is about validating the current IPv6 address schema, validating and auditing the IP addresses in the use of B-Block. The project will also include testing of various network devices such as switch, router and servers. It should also result in an updated Network Topology diagram.

## DEVELOPMENT

1. Development of the project will start with auditing each network lab and checking their IPv6 address schema. Making a note of all audited devices.
2. Developing new updated network topology diagram, which will be done on Packet tracer or Visio.
3. Testing is the part of Validation of IPv6 Network, which include test plan and test cases.
4. Testing of all the devices whether they are been configured with IPv6 address or not,

if not submit it with the solution alongside test cases.

5. Documenting strategies and best practices for validating IPv6 address range.
6. Developing an IPv6 range for new labs in B-Block and propose a new IP range.

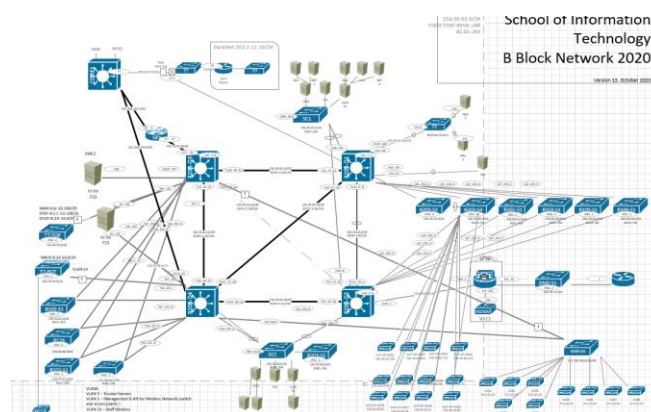


Figure 3: Updated Network Topology

## CONCLUSION

The project will conclude by meeting the forecasted deliverables, which include developing Network topology diagram, Validating IPv6 network by creating test plan and various test cases. Also, device compatibility for IPv6 operations are been reviewed.