

**TECHNICAL SPECIFICATION  
SUPPLY OF AP ACCESS SWITCH (TYPE A)**

**Unit:** \_\_\_\_\_

*Suitable medium requirement Access point heavy environment/ High power requirement network Access.*

No.	SPECIFICATION	VENDORS PROPOSAL	COMPLIANCE (YES/NO)
<b>TYPE A</b>	<b>AP ACCESS SWITCH</b>		
<b>Network Capabilities</b>	<ul style="list-style-type: none"> <li>• 24 ports (10/100/1000 Gbps) CL4 POE support</li> <li>• Stackable Layer 3 switches with BGP, EVPN, VXLAN, VRF, and OSPF with robust security and QoS</li> <li>• Built-in high-speed 10G/25G uplinks 4 Small Form-Factor Pluggable(SFP).</li> <li>• High performance 448 Gbps system switching capacity, 334 MPPS of system throughput, and up to 200 Gbps stacking bandwidth.</li> <li>• Size 1U and Power-to-port switch bundle with back-to-front airflow ideal for data center 1GbE ToR and OOBM deployments</li> <li>• Support for automatic VLAN information, assignment &amp; configuration.</li> <li>• Device management support with:               <ul style="list-style-type: none"> <li>○ Command-Line Interface (CLI)</li> <li>○ Secure shell (SSH)</li> <li>○ Simple Network Management Protocol (SNMP)</li> <li>○ RJ-45 or USB console access</li> <li>○ Configuration with minimum 1Gbps link speed</li> </ul> </li> <li>• Port Security with 802.1X support for               <ul style="list-style-type: none"> <li>○ Port Mirroring / Monitoring</li> <li>○ Bridge Protocol Data Unit (BPDU) Guard Protection</li> <li>○ Spanning-tree / Loopguard / Rootguard</li> </ul> </li> <li>• Other Security features:               <ul style="list-style-type: none"> <li>○ Multidomain authentication</li> <li>○ Internet Group Management Protocol (IGMP) filtering,</li> <li>○ Terminal Access Controller Access Control System (TACACS) / Radius authentication</li> <li>○ Access control list (ACL)</li> </ul> </li> </ul>		

\*This specification has been endorsed at the **Technical Specification Endorsement meeting** dated **18<sup>th</sup> August 2023** – “IIUM AP Switches Update.”

	<ul style="list-style-type: none"> <li>○ Dynamic Segmentation / VLAN</li> </ul>		
<b>Service requirements</b>	<p>Make sure that the deployment of the switch inherits the network configuration of the uplink switch such as but not limited to:</p> <ul style="list-style-type: none"> <li>• VLAN configuration</li> <li>• LLDP enablement</li> <li>• Campuses SNMP configuration</li> <li>• Connection Integration with an uplink switch such as a port channel or trunking requirements</li> </ul>		
<b>Accessories</b>	<p>Must make sure to include the following accessories, unless stated not:</p> <ul style="list-style-type: none"> <li>• Rackmounts/rack tray installed to fit with existing racks including bolts/nuts etc.</li> <li>• Minimum 1 Installed AC 680W module along the switch</li> <li>• Minimum 1 10G SFP+ LC LR Transceiver and 3m LC-LC SMF Patchcord</li> </ul>		
<b>Base warranty</b>	<ul style="list-style-type: none"> <li>▪ Must come with minimum 1 YEAR support and product warranty by Principle.</li> </ul>		
<b>Documentation</b>	<ul style="list-style-type: none"> <li>• SSM Letter (<b>Form 9</b>, company profile)</li> <li>• Bank statements (ending balance for <b>3 Months</b>)</li> <li>• MOF certificate</li> <li>• Letter from principal for all supplied items</li> <li>• Heatmap before and after installation</li> <li>• FAT and UAT for all supplied items</li> </ul>		
<b>Penalty</b>	<p>In the event the vendor fails to install the Product within the Installation Period, IIUM shall have the rights against the vendor as follows:</p> <p>(a) A penalty of RMXXX per unit per day until the installation/relocation is complete; and/or</p>		
	<p>In the event the vendor fails to replace the faulty Product after one (1) working day, IIUM shall have the rights against the vendor as follows:</p> <p>(a) A penalty of RMXXX per unit per day until the replacement is complete; and/or</p> <p>(b) If necessary by IIUM, the right to purchase the replacement of the Product from another source and the said replacement shall not exceed the specification described in the Agreement.</p>		

\*This specification has been endorsed at the **Technical Specification Endorsement meeting** dated **18<sup>th</sup> August 2023** – “IIUM AP Switches Update.”

	In the event the vendor fails to meet SLA, IIUM shall have the rights against the vendor as follows: (a) A penalty of RMXXX per unit per hour until the Products are restored		
<b>PIC INFORMATION</b>  <b>Name:</b>  <b>Telephone No. :</b>  <b>Email:</b>		<i>PIC SIGNATURE &amp; COMPANY STAMP</i>	

\*This specification has been endorsed at the **Technical Specification Endorsement meeting** dated **18<sup>th</sup> August 2023** – “IIUM AP Switches Update.”

**TECHNICAL SPECIFICATION  
SUPPLY OF MULTI-GIG SWITCH (TYPE B)**

Unit: \_\_\_\_\_

*Suitable medium requirement high requirement access point heavy environment/ High power requirement network Access.*

No.	SPECIFICATION	VENDORS PROPOSAL	COMPLIANCE (YES/NO)
<b>TYPE B</b>	<b>MULTI-GIG SWITCH</b>		
<b>Network Capabilities</b>	<ul style="list-style-type: none"> <li>• 24 ports (1/2.5/5/10 Gbps) multi-gigabit and CL6 POE support</li> <li>• Stackable Layer 3 switches with BGP, EVPN, VXLAN, VRF, and OSPF with robust security and QoS</li> <li>• Built-in high-speed 10G/25G/50G uplinks 4 Small Form-Factor Pluggable(SFP).</li> <li>• High performance 780 Gbps system switching capacity, 580 MPPS of system throughput, and up to 200 Gbps stacking bandwidth.</li> <li>• Size 1U and Power-to-port switch bundle with back-to-front airflow ideal for data center 1GbE ToR and OOBM deployments</li> <li>• Support for automatic VLAN information, assignment &amp; configuration.</li> <li>• Device management support with:               <ul style="list-style-type: none"> <li>○ Command-Line Interface (CLI)</li> <li>○ Secure shell (SSH)</li> <li>○ Simple Network Management Protocol (SNMP)</li> <li>○ RJ-45 or USB console access</li> <li>○ Smart rate configuration with minimum 1Gbps link speed</li> </ul> </li> <li>• Port Security with 802.1X support for               <ul style="list-style-type: none"> <li>○ Port Mirroring / Monitoring</li> <li>○ Bridge Protocol Data Unit (BPDU) Guard Protection</li> <li>○ Spanning-tree / Loopguard / Rootguard</li> </ul> </li> <li>• Other Security features:               <ul style="list-style-type: none"> <li>○ Multidomain authentication</li> <li>○ Internet Group Management Protocol (IGMP) filtering,</li> <li>○ Terminal Access Controller Access Control System (TACACS) / Radius authentication</li> <li>○ Access control list (ACL)</li> </ul> </li> </ul>		

\*This specification has been endorsed at the **Technical Specification Endorsement meeting** dated **18<sup>th</sup> August 2023** – “IIUM AP Switches Update.”

	<ul style="list-style-type: none"> <li>○ Dynamic Segmentation / VLAN</li> </ul>		
<b>Service requirements</b>	<ul style="list-style-type: none"> <li>● Make sure that the deployment of the switch inherits the network configuration of the uplink switch such as but not limited to: <ul style="list-style-type: none"> <li>● VLAN configuration</li> <li>● LLDP enablement</li> <li>● Campuses SNMP configuration</li> <li>● Connection Integration with an uplink switch such as a port channel or trunking requirements</li> </ul> </li> </ul>		
<b>Accessories</b>	<ul style="list-style-type: none"> <li>● Must make sure to include the following accessories, unless stated not: <ul style="list-style-type: none"> <li>● Rackmounts/rack tray installed to fit with existing racks including bolts/nuts etc.</li> <li>● Minimum 1 Installed AC 1050W module with switch</li> <li>● Minimum 1 10G SFP+ LC LR Transceiver 3m LC-LC SMF Patchcord</li> </ul> </li> </ul>		
<b>Base warranty</b>	<ul style="list-style-type: none"> <li>▪ Must come with minimum 1 YEAR support and product warranty by Principle.</li> </ul>		
<b>Documentation</b>	<ul style="list-style-type: none"> <li>● SSM Letter (<b>Form 9</b>, company profile)</li> <li>● Bank statements (ending balance for <b>3 Months</b>)</li> <li>● MOF certificate</li> <li>● Letter from principal for all supplied items</li> <li>● Heatmap before and after installation</li> <li>● FAT and UAT for all supplied items</li> </ul>		
<b>Penalty</b>	<p>In the event the vendor fails to install the Product within the Installation Period, IIUM shall have the rights against the vendor as follows:</p> <p>(a) A penalty of RMXXX per unit per day until the installation/relocation is complete; and/or</p>		
	<p>In the event the vendor fails to replace the faulty Product after one (1) working day, IIUM shall have the rights against the vendor as follows:</p> <p>(a) A penalty of RMXXX per unit per day until the replacement is complete; and/or</p> <p>(b) If necessary by IIUM, the right to purchase the replacement of the Product from another source and the said replacement shall not exceed the specification described in the Agreement.</p>		

\*This specification has been endorsed at the **Technical Specification Endorsement meeting** dated **18<sup>th</sup> August 2023** – “IIUM AP Switches Update.”

	In the event the vendor fails to meet SLA, IIUM shall have the rights against the vendor as follows: (a) A penalty of RMXXX per unit per hour until the Products are restored		
<b>PIC INFORMATION</b>  <b>Name:</b>  <b>Telephone No. :</b>  <b>Email:</b>		<i>PIC SIGNATURE &amp; COMPANY STAMP</i>	

\*This specification has been endorsed at the **Technical Specification Endorsement meeting** dated **18<sup>th</sup> August 2023** – “IIUM AP Switches Update.”