



**Federal Board of Revenue**  
Revenue Division – Government of Pakistan

## **Amendment No. 01**

### **REQUEST FOR BIDS**

(One-Envelope Bidding Process)

## **Procurement of (Enterprise-Grade) Rack Mount Servers for FBR Datacenter**

Issuance Date	11 <sup>th</sup> April, 2025
Project Title	Pakistan Raises Revenue Program
Loan No./Credit No./ Grant No.:	IDA-6435-PAK
RFB No.	PK-FBR-471724-GO-RFB
RFB Reference No.	2(1)/2025-Addl.Dir(P&F)/471724
Title	Procurement of (Enterprise-Grade) Rack Mount Servers for FBR Datacenter

This is in continuation of the Request for Bids (RFB) issued on 15<sup>th</sup> March, 2025 and Pre-bid Meeting held on 24<sup>th</sup> March 2025 for the subject procurement activity. The following revisions is made in the RFB document through Amendment 01: -

**a. Section II - Bid Data Sheet**

Page No.	ITB Reference No.	Initial Requirements of RFB	Revised Requirements of RFB
45.	ITB 18.1	The Bid shall be valid until: 17 <sup>th</sup> July, 2025	The Bid shall be valid until: 28 <sup>th</sup> July, 2025
46.	ITB 22.1	The deadline for Bid submission is: Date: 17 <sup>th</sup> April, 2025 Time: 11:00 am	The deadline for Bid submission is: Date: 28 <sup>th</sup> April, 2025 Time: 11:00 am
46.	ITB 25.1	The Bid opening shall take place at: FBR House, Constitution Avenue Islamabad, Pakistan Date: 17 <sup>th</sup> April, 2025 Time: Immediately after the deadline for submission of Bids	The Bid opening shall take place at: FBR House, Constitution Avenue Islamabad, Pakistan Date: 28 <sup>th</sup> April, 2025 Time: Immediately after the deadline for submission of Bids

**b. Section III - Evaluation and Qualification Criteria**

**i. Technical Part:**

Page No.	Criteria	Initial Requirements of RFB	Revised Requirements of RFB
49.	(b) Specific Experience	The Bidder shall demonstrate that it has successfully and substantially completed at least two contracts within the last five years prior to bid submission deadline, of similar nature and complexity to the Goods and Related Services having cumulative value of PKR 600 million. Out of the two contracts, one contract, exclusively, should be of at least 50 Rack Mount Servers Or have value of PKR 300 million. For a joint venture, either member or combined can full fill this condition.	The Bidder shall demonstrate that it has successfully and substantially completed at least three contracts within the last five years prior to bid submission deadline, of similar nature and complexity to the Goods and Related Services having cumulative value of PKR 600 million. Out of the three contracts, one contract, exclusively, should be of at least 30 Rack Mount Servers Or have value of PKR 200 million. For a joint venture, either member or combined can full fill this condition.
49.	(c) Manufacturing experience and Technical Capacity	For the items under the Contract the Bidder shall furnish documentary evidence to demonstrate that: (i) Offered brand of similar nature and complexity should be in manufacturing for at least ten (10) years, prior to the bid submission deadline; and	For the items under the Contract the Bidder shall furnish documentary evidence to demonstrate that: (i) Offered brand of similar nature and complexity should be in manufacturing for at least ten (10) years and <b><i>must have supplied the Enterprise datacenter grade Rack mount Servers in Pakistan in public or private sectors by themselves or</i></b>

			<i>authorized partner</i> , prior to the bid submission deadline; and
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**ii. Technical Evaluation (ITB 32.4)**

Page No.	Criteria No.	Initial Requirements of RFB	Revised Requirements of RFB
50.	1.	Bidder must provide evidence from manufacturer to furnish spare parts with 4 -6 hours in Islamabad & Lahore. Relevant hardware Inventory detail in the warehouse of the OEM or the authorized partner should also be provided. (Documentary evidence required).	Bidder must provide evidence from manufacturer to furnish spare parts within 4 -6 hours in Islamabad & Lahore. <b><i>OEM must have warehouses/Depos locally in major cities (Islamabad, Lahore) Pakistan managed by themselves or managed by their authorized partner.</i></b> Relevant hardware Inventory detail in the warehouse of the OEM or the authorized partner should also be provided. (Documentary evidence required).
50.	2.	The bidder must be registered with SECP and relevant Tax Authorities in Pakistan. Relevant documentation must be attached with the bid.	The <b>OEM and the bidder</b> must be registered with SECP and relevant Tax Authorities in Pakistan. Relevant documentation must be attached with the bid. A foreign bidder will be required to register before contract award, if successful.

**c. Section IV – Bidding Forms**

**i. Technical Compliance Sheet**

Page No.	Description	Initial Specification of RFB	Revised Specification of RFB
<b>Rack Mount Servers for Virtualized Environment (Category-A)</b>			
58.	Hard Drives	Boot flash card 960 GB or higher.	Boot flash card 450 GB or higher
59.	Operating System Support	Support for the latest version of all operating systems from Microsoft (x86),Linux, Ubuntu, Solaris Intel, RHEL,SUSE,VMware/Citrix/Oracle/Open, Hypervisors	Support for the latest version of all operating systems from Microsoft (x86), Linux, Ubuntu, RHEL, SUSE, VMware/Citrix/Oracle/Microsoft etc.
59.	Network Interfaces	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to 1Gbps.	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to <b>10Gbps.</b>
59.	KVM along with allied accessories	Remote management solution Out of band management with licenses and Hardware Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well.	Remote management solution Out of band management with licenses and Hardware Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well. All ports must be fully populated and all required converters / cables must be provided by the supplier/bidder. Detail is as follows:- 1. Five (5) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100

			<p>2. Three (3) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100</p> <p>3. Ten (10) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100</p> <p>4. Five (5) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200</p> <p>5. Three (3) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 100</p> <p>6.Ten (10) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200</p>
58.	Hard Drives	Hard Drives	FBR will retain faulty Hard Drives
<b>Rack Mount Servers for Databases (Category -B)</b>			
60.	Operating System Support	Support for the latest version of all operating systems from Microsoft (x86),Linux, Ubuntu, Solaris Intel, RHEL,SUSE,VMware/Citrix/Oracle/Open, Hypervisors	Support for the latest version of all operating systems from Microsoft (x86), Linux, Ubuntu, RHEL, SUSE, VMware/Citrix/Oracle/Microsoft etc.
60.	Hard Drives	SSD (NVME) 2 x 960 GB for OS and 5 x 1 TB or higher SAS, RAID 5 for Data	SSD (NVME) 2 x 960 GB for OS and 5 x 1 TB or higher <b>SAS (SSD)</b> , RAID 5 for Data
60.	Network Interfaces	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to 1Gbps.	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to <b>10Gbps.</b>
60.	KVM along with allied accessories	Remote management solution Out of band management with licenses and Hardware Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well.	<p>Remote management solution Out of band management with licenses and Hardware Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well.</p> <p>All ports must be fully populated and all required converters / cables must be provided by the supplier/bidder. Detail is as follows:-</p> <p>1. Five (5) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100</p> <p>2. Three (3) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100</p> <p>3. Ten (10) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50</p>

			<p>µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100</p> <p>4. Five (5) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200</p> <p>5. Three (3) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 100</p> <p>6.Ten (10) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200</p>
60.	Hard Drives	Hard Drives	FBR will retain faulty Hard Drives
<b>Rack Mount Servers for Databases (Category -C)</b>			
62.	Operating System Support	Support for the latest version of all operating systems from Microsoft (x86),Linux, Ubuntu, Solaris Intel, RHEL,SUSE,VMware/Citrix/Oracle/Open, Hypervisors	Support for the latest version of all operating systems from Microsoft (x86), Linux, Ubuntu, RHEL, SUSE, VMware/Citrix/Oracle/Microsoft etc.
61.	Hard Drives	SSD (NVME) 2 x 960 GB for OS and 5 x 1 TB or higher SAS, RAID 5 for Data	SSD (NVME) 2 x 960 GB for OS and 5 x 1 TB or higher <b>SAS (SSD)</b> , RAID 5 for Data
62.	Network Interfaces	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to 1Gbps.	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to <b>10Gbps.</b>
62.	KVM along with allied accessories	Remote management solution Out of band management with licenses and Hardware Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well.	<p>Remote management solution Out of band management with licenses and Hardware Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well.</p> <p>All ports must be fully populated and all required converters / cables must be provided by the supplier/bidder. Detail is as follows:-</p> <ol style="list-style-type: none"> <li>1. Five (5) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100</li> <li>2. Three (3) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100</li> <li>3. Ten (10) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100</li> <li>4. Five (5) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200</li> <li>5. Three (3) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord,</li> </ol>

			2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 100 6.Ten (10) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200
61.	Hard Drives	Hard Drives	FBR will retain faulty Hard Drives
<b>Rack Mount Servers for AEOI (Category – D)</b>			
63.	Operating System Support	Support for the latest version of all operating systems from Microsoft (x86),Linux, Ubuntu, Solaris Intel, RHEL,SUSE,VMware/Citrix/Oracle/Open, Hypervisors	Support for the latest version of all operating systems from Microsoft (x86), Linux, Ubuntu, RHEL, SUSE, VMware/Citrix/Oracle/Microsoft etc.
63.	Network Interfaces	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to 1Gbps.	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to <b>10Gbps.</b>
63.	KVM along with allied accessories	Remote management solution Out of band management with licenses and Hardware Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well.	Remote management solution Out of band management with licenses and Hardware Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well. All ports must be fully populated and all required converters / cables must be provided by the supplier/bidder. Detail is as follows:- 1. Five (5) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100 2. Three (3) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100 3. Ten (10) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100 4. Five (5) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200 5. Three (3) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 100 6.Ten (10) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200
63	Hard Drives	Hard Drives	FBR will retain faulty Hard Drives
<b>Rack Mount Servers for SOC (Category-E)</b>			
64.	Operating System Support	Support for the latest version of all operating systems from Microsoft (x86),Linux, Ubuntu, Solaris Intel,	Support for the latest version of all operating systems from Microsoft

		RHEL,SUSE,VMware/Citrix/Oracle/Open, Hypervisors	(x86), Linux, Ubuntu, RHEL, SUSE, VMware/Citrix/Oracle/Microsoft etc.
64.	Network Interfaces	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to 1Gbps.	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to <b>10Gbps.</b>
65.	KVM along with allied accessories	Remote management solution Out of band management with licenses and Hardware Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well.	Remote management solution Out of band management with licenses and Hardware Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well. All ports must be fully populated and all required converters / cables must be provided by the supplier/bidder. Detail is as follows:- 1. Five (5) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100 2. Three (3) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100 3. Ten (10) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100 4. Five (5) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200 5. Three (3) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 100 6.Ten (10) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200
64	Hard Drives	Hard Drives	FBR will retain faulty Hard Drives
<b>Rack Mount Servers for Backup (Category -F)</b>			
65.	Operating System Support	Support for the latest version of all operating systems from Microsoft (x86),Linux, Ubuntu, Solaris Intel, RHEL,SUSE,VMware/Citrix/Oracle/Open, Hypervisors	Support for the latest version of all operating systems from Microsoft (x86), Linux, Ubuntu, RHEL, SUSE, VMware/Citrix/Oracle/Microsoft etc.
65.	Hard Drives	SSD (NVME) 2 x 960 GB for OS and 5 x 1 TB or higher SAS, RAID 5 for Data	SSD (NVME) 2 x 960 GB for OS and 5 x 1 TB or higher <b>SAS (SSD)</b> , RAID 5 for Data
66.	Network Interfaces	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to 1Gbps.	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to <b>10Gbps.</b>
66.	KVM along with allied accessories	Remote management solution Out of band management with licenses and Hardware	Remote management solution Out of band management with licenses and

		Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well.	Hardware Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well. All ports must be fully populated and all required converters / cables must be provided by the supplier/bidder. Detail is as follows:- 1. Five (5) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100 2. Three (3) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100 3. Ten (10) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100 4. Five (5) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200 5. Three (3) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 100 6.Ten (10) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200
65.	Hard Drives	Hard Drives	FBR will retain faulty Hard Drives

**d. Section VII - Schedule of Requirements**

**i. Technical Specifications.**

Page No.	Description	Initial Specification of RFB	Revised Specification of RFB
<b>Rack Mount Servers for Virtualized Environment (Category-A)</b>			
95.	Hard Drives	Boot flash card 960 GB or higher.	Boot flash card 450 GB or higher
96.	Operating System Support	Support for the latest version of all operating systems from Microsoft (x86),Linux, Ubuntu, Solaris Intel, RHEL,SUSE,VMware/Citrix/Oracle/Open, Hypervisors	Support for the latest version of all operating systems from Microsoft (x86), Linux, Ubuntu, RHEL, SUSE, VMware/Citrix/Oracle/Microsoft etc.
96.	Network Interfaces	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to 1Gbps.	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to <b>10Gbps.</b>
96.	KVM along with allied accessories	Remote management solution Out of band management with licenses and Hardware	Remote management solution Out of band management with licenses and

		Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well.	Hardware Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well. All ports must be fully populated and all required converters / cables must be provided by the supplier/bidder. Detail is as follows:- 1. Five (5) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100 2. Three (3) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100 3. Ten (10) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100 4. Five (5) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200 5. Three (3) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 100 6.Ten (10) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200
95.	Hard Drives	Hard Drives	FBR will retain faulty Hard Drives
<b>Rack Mount Servers for Databases (Category -B)</b>			
97.	Operating System Support	Support for the latest version of all operating systems from Microsoft (x86),Linux, Ubuntu, Solaris Intel, RHEL,SUSE,VMware/Citrix/Oracle/Open, Hypervisors	Support for the latest version of all operating systems from Microsoft (x86), Linux, Ubuntu, RHEL, SUSE, VMware/Citrix/Oracle/Microsoft etc.
97.	Hard Drives	SSD (NVME) 2 x 960 GB for OS and 5 x 1 TB or higher SAS, RAID 5 for Data	SSD (NVME) 2 x 960 GB for OS and 5 x 1 TB or higher <b>SAS (SSD)</b> , RAID 5 for Data
97.	Network Interfaces	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to 1Gbps.	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to <b>10Gbps</b> .
97.	KVM along with allied accessories	Remote management solution Out of band management with licenses and Hardware Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well.	Remote management solution Out of band management with licenses and Hardware Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well. All ports must be fully populated and all required converters / cables must be

			<p>provided by the supplier/bidder. Detail is as follows:-</p> <ol style="list-style-type: none"> <li>1. Five (5) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100</li> <li>2. Three (3) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100</li> <li>3. Ten (10) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100</li> <li>4. Five (5) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200</li> <li>5. Three (3) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 100</li> <li>6.Ten (10) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200</li> </ol>
97	Hard Drives	Hard Drives	FBR will retain faulty Hard Drives
<b>Rack Mount Servers for Databases (Category -C)</b>			
99.	Operating System Support	Support for the latest version of all operating systems from Microsoft (x86),Linux, Ubuntu, Solaris Intel, RHEL,SUSE,VMware/Citrix/Oracle/Open, Hypervisors	Support for the latest version of all operating systems from Microsoft (x86), Linux, Ubuntu, RHEL, SUSE, VMware/Citrix/Oracle/Microsoft etc.
98.	Hard Drives	SSD (NVME) 2 x 960 GB for OS and 5 x 1 TB or higher SAS, RAID 5 for Data	SSD (NVME) 2 x 960 GB for OS and 5 x 1 TB or higher <b>SAS (SSD)</b> , RAID 5 for Data
98.	Network Interfaces	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to 1Gbps.	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to <b>10Gbps.</b>
99.	KVM along with allied accessories	Remote management solution Out of band management with licenses and Hardware Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well.	<p>Remote management solution Out of band management with licenses and Hardware Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well.</p> <p>All ports must be fully populated and all required converters / cables must be provided by the supplier/bidder. Detail is as follows:-</p> <ol style="list-style-type: none"> <li>1. Five (5) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100</li> </ol>

			<p>2. Three (3) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100</p> <p>3. Ten (10) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100</p> <p>4. Five (5) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200</p> <p>5. Three (3) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 100</p> <p>6.Ten (10) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200</p>
98.	Hard Drives	Hard Drives	FBR will retain faulty Hard Drives
<b>Rack Mount Servers for AEOI (Category – D)</b>			
100.	Operating System Support	Support for the latest version of all operating systems from Microsoft (x86),Linux, Ubuntu, Solaris Intel, RHEL,SUSE,VMware/Citrix/Oracle/Open, Hypervisors	Support for the latest version of all operating systems from Microsoft (x86), Linux, Ubuntu, RHEL, SUSE, VMware/Citrix/Oracle/Microsoft etc.
99-100.	Network Interfaces	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to 1Gbps.	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to <b>10Gbps.</b>
100.	KVM along with allied accessories	Remote management solution Out of band management with licenses and Hardware Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well.	<p>Remote management solution Out of band management with licenses and Hardware Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well.</p> <p>All ports must be fully populated and all required converters / cables must be provided by the supplier/bidder. Detail is as follows:-</p> <p>1. Five (5) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100</p> <p>2. Three (3) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100</p> <p>3. Ten (10) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100</p> <p>4. Five (5) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord,</p>

			<p>2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200</p> <p>5. Three (3) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 100</p> <p>6.Ten (10) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200</p>
100	Hard Drives	Hard Drives	FBR will retain faulty Hard Drives
<b>Rack Mount Servers for SOC (Category-E)</b>			
101.	Operating System Support	Support for the latest version of all operating systems from Microsoft (x86),Linux, Ubuntu, Solaris Intel, RHEL,SUSE,VMware/Citrix/Oracle/Open, Hypervisors	Support for the latest version of all operating systems from Microsoft (x86), Linux, Ubuntu, RHEL, SUSE, VMware/Citrix/Oracle/Microsoft etc.
101.	Network Interfaces	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to 1Gbps.	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to <b>10Gbps.</b>
101.	KVM along with allied accessories	Remote management solution Out of band management with licenses and Hardware Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well.	<p>Remote management solution Out of band management with licenses and Hardware Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well.</p> <p>All ports must be fully populated and all required converters / cables must be provided by the supplier/bidder. Detail is as follows:-</p> <ol style="list-style-type: none"> <li>Five (5) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100</li> <li>Three (3) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100</li> <li>Ten (10) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100</li> <li>Five (5) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200</li> <li>Three (3) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 100</li> <li>Ten (10) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200</li> </ol>
101.	Hard Drives	Hard Drives	FBR will retain faulty Hard Drives

<b>Rack Mount Servers for Backup (Category -F)</b>			
102.	Operating System Support	Support for the latest version of all operating systems from Microsoft (x86),Linux, Ubuntu, Solaris Intel, RHEL,SUSE,VMware/Citrix/Oracle/Open, Hypervisors	Support for the latest version of all operating systems from Microsoft (x86), Linux, Ubuntu, RHEL, SUSE, VMware/Citrix/Oracle/Microsoft etc.
101.	Hard Drives	SSD (NVME) 2 x 960 GB for OS and 5 x 1 TB or higher SAS, RAID 5 for Data	SSD (NVME) 2 x 960 GB for OS and 5 x 1 TB or higher <b>SAS (SSD)</b> , RAID 5 for Data
102.	Network Interfaces	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to 1Gbps.	Dual OPTICAL 2 x 25 Gbps Ethernet Protocol interface (with SFP fully populated) auto-negotiate to <b>10Gbps.</b>
102.	KVM along with allied accessories	Remote management solution Out of band management with licenses and Hardware Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well.	Remote management solution Out of band management with licenses and Hardware Based KVM with keyboard for Console Management. All accessories which include installation (Power and cabling) of rack and servers and network connectivity as well. All ports must be fully populated and all required converters / cables must be provided by the supplier/bidder. Detail is as follows:- 1. Five (5) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100 2. Three (3) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100 3. Ten (10) Meter FC Corning ( LC Duplex Reverse Polarity Uniboot to LC Duplex Reverse Polarity Uniboot, Plastic, 2 F, 50 µm multimode (OM4), DFX® 250, 1 m) Fiber Channel Cable = QTY 100 4. Five (5) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200 5. Three (3) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 100 6.Ten (10) Meter UTP Corning (Everon® Copper Datacom Class EA Patch Cord, 2xRJ45, Cat.6A, S/FTP LSZH AWG 26) Cable = QTY 200
101.	Hard Drives	Hard Drives	FBR will retain faulty Hard Drives