



IOCB PRAGUE

Institute of Organic Chemistry and Biochemistry
Czech Academy of Sciences

PURCHASE AGREEMENT

ÚOCHB-2024/VT/003/B

Ústav organické chemie a biochemie AV ČR, v.v.i.

With its registered office at: Flemingovo nám. 2, 160 00 Praha 6
IČO (business identification number): 61388963
DIČ (VAT identification number): CZ 61388963
Represented by: Prof. RNDr. Jan Konvalinka, CSc., Director
Bank account: [REDACTED]

hereinafter as the “**Client**”

and

M Computers s.r.o.

With its registered seat/place of business at: Úlehlova 3100/10, 628 00 Brno-Líšeň
IČO (Business Identification Number): 26042029
DIČ (V.A.T. Identification Number): CZ26042029
Represented by: Ing. Lenka Navrátilová, authorized representative by proxy
Statutory authority: Marek Vasicek, Managing Director
Registered in the Commercial Register of Registered with the Regional Court in Brno, Section C, File No. 121840
Bank account: [REDACTED],
[REDACTED]

hereinafter as the “**Supplier**”,

the Client and the Supplier hereinafter as the “**Contracting Parties**”

have concluded, in compliance with the provisions of Section 2079 et seq. of the Czech Act No. 89/2012 Coll., Civil Code (“**Civil Code**”), based on the realized public tender (“**Tender Proceedings**”), this purchase agreement (“**Agreement**”) in the following wording:

1. PURPOSE AND SUBJECT OF THE AGREEMENT

- 1.1. The subject of this Agreement is the Supplier's commitment to deliver a scratch drives for existing HPC infrastructure with accessories as specified in Appendix 1 to this Agreement (“**Equipment**”) to the Client and transfer the ownership rights to the Equipment to the Client, as well as the obligation of the Client to pay to the Supplier the agreed price for the duly delivered Equipment in accordance with the conditions set in this Agreement.
- 1.2. A part of the Supplier's delivery is also to supply all the attachments for the Equipment necessary to fulfill the purpose of this Agreement, including the license to the operating

software (as described in this Agreement and the appendices hereto), to transport the Equipment to the place of performance, , to train the staff of the Client concerning use of the Equipment in the place of performance in the extent necessary for realization of the purpose of this Agreement (if needed), to hand over the documents needed to take over and use the Equipment, and to provide the guarantee service (including free update of the software within the guarantee period).

- 1.3. The Supplier is entitled to use for performance of this Agreement subSuppliers, whereas the Supplier is obliged to state the list of subSuppliers in Appendix 2 to this Agreement. If the Supplier does not use for performance of this Agreement subSuppliers, then the Supplier is obliged to annex as appendix to this Agreement a declaration of honour stating that the subSuppliers shall not be used for performance of this Agreement.

2. PLACE OF PERFORMANCE AND PERIOD OF PERFORMANCE

- 2.1. The place of performance is at the address of the Client's registered office, i.e. Flemingovo nám. 2, 160 00 Praha 6.
- 2.2. The Supplier shall supply the Equipment within 6 weeks from the effective date of this Agreement.
- 2.3. The Client shall confirm the delivery of the Equipment to the place of performance on the interim handover protocol. Client will then install delivered Equipment and test it according to the Appendix no.3 to this Agreement within next 15 working days. If all the criteria are met within the testing, the Client will confirm proper delivery in writing on the final handover protocol, based on which the Supplier can charge for the delivery of the Equipment and issue the respective invoice (tax document).
- 2.4. The Client is not obliged to accept the Equipment if it has any defects or if the Supplier has not properly fulfilled its obligations stipulated in the Agreement. In such a case, the Client shall inform the Supplier about the reasons for non-acceptance of the Equipment.
- 2.5. Nevertheless, the Client can accept the Equipment even if it has defects or the Supplier has not properly fulfilled its obligations stipulated in the Agreement. In such a case, the Client shall list in the handover protocol all the defects discovered. In that case, the Client is, based on this Agreement, entitled to all claims under this Agreement in connection with the defects listed.
- 2.6. The Supplier shall remove the defects listed in the handover protocol or fulfill other claim arising from defects selected by the Client within **14 working days** from the date of issue of this protocol, if the Contracting Parties do not agree otherwise.

3. THE ACQUISITION OF OWNERSHIP RIGHTS AND THE RISK OF DAMAGE TO THE EQUIPMENT

- 3.1. The Client shall acquire the ownership rights to the Equipment at the moment of its receipt. The Supplier assumes the risk of damage to the Equipment until it is taken over by the Client.

4. THE QUALITY OF THE EQUIPMENT AND ITS DEFECTS

- 4.1. The Equipment shall be supplied in the required quality and shall at the moment of delivery:
 - a) have the properties required by this Agreement and its appendices;

- b) have the properties in accordance with the purpose of this Agreement as it arises from the content of this Agreement;
 - c) be made according to all applicable standards and technological regulations;
 - d) be in compliance with applicable legislation; and
 - e) be new, unused, non-refurbished (including all parts)
 - f) pass all tests according to the Appendix no. 3 to this Agreement.
- 4.2. The Supplier is responsible for proper operation of the Equipment and for the fact that the Equipment is usable for the purpose stated in this Agreement.
- 4.3. The Supplier is responsible for the defects which the delivered Equipment has at the moment of its take-over by the Client, as well as for the defects of the Equipment, which shall appear during the guarantee period after the Equipment is taken over by the Client.

Quality Guarantee

- 4.4. The Supplier provides the Client with a quality guarantee to the Equipment (any of its components or accessories) and to proper operation of the Equipment for a period of *5 years* from the date when the Equipment is taken over by the Client and it is confirmed on the handover protocol. The Supplier is responsible for any defect which appears during the guarantee period on the Equipment except for defects in the Devices owned by the Client, unless the defect was caused by the Supplier or the Equipment supplied by him. Supplier acknowledges that any possible claim must not be rejected due to its write wear, unless the supplier proves that the endurance value has been exceeded.
- 4.5. The guarantee period is interrupted for the period during which the Client cannot use the Equipment or its part for defects for which the Supplier is responsible.
- 4.6. If the Equipment which has been handed over is defective, the Client may choose from the following:
- require the removal of the defect within 1 week from raising of the claim by the Client or in any other period agreed by the Contracting Parties;
 - require adequate discount from the Purchase Price; or
 - withdraw from this Agreement.
- 4.7. Unless the Supplier removes the defect within the time period set in this Agreement, the Client can, at its discretion, either choose another claim arising from this Agreement or remove the defect on its own or through another party at the expense of the Supplier. In that case, the Supplier is obliged to pay upon request of the Client all the costs incurred by the Client for removal of the defect or in connection with such removal.
- 4.8. If the Client has selected as a claim arising from defects discount from the Purchase Price, the Client shall propose the amount of discount in writing to the Supplier. Unless the Supplier rejects this proposal in writing within 10 days from its receipt, the amount of the discount proposed by the Client is binding for both Contracting Parties. If the Supplier rejects the proposed amount of discount from the Purchase Price in time and if the Contracting parties do not agree otherwise within 30 days from raising of the claim on discount of the Purchase Price by the Client, the amount of discount shall be determined by an expert selected by the Client from a list of experts. The discount determined by the expert shall be then binding for both Contracting Parties.

- 4.9. The costs of the expert assessment according to the above stated provision are borne by the Supplier unless it is proven that there was no defect. The Supplier is obliged to pay for such expenses at the latest together with the discount from the Purchase Price.
- 4.10. The Client undertakes to provide the Supplier with the necessary cooperation within removal of the defects which can be reasonably required, in particular to enable the Supplier works aiming at removal of the defects.
- 4.11. The Supplier undertakes that he will, within removal of the defects of the Equipment, respect the operating instructions of the Client if they are issued and to proceed in such a manner so as to minimize the interference in the use of the Equipment by the Client and the normal operation of the Client.
- 4.12. The guarantee service is such an activity of the Supplier which prevents the formation of defects of the Equipment and helps to preserve the properties of the Equipment.
- 4.13. The Supplier shall ensure at his expense free guarantee service to the Equipment at the place of installation of the Equipment according to the below stated conditions. The Client shall report the guarantee defects to the following Supplier's email address
[REDACTED]
- 4.14. The binding time limits for removal of the guarantee defects:

The guaranteed period for the receipt and acceptance of the reported defect by the Supplier	The guaranteed period for the removal of the defect
1 working days	10 business days, if not agreed otherwise by the Contracting Parties

5. OTHER OBLIGATIONS OF THE SUPPLIER

- 5.1. The Supplier is obliged to comply with all obligations included in his bid within the Tender Proceedings even if they are not explicitly expressed in this Agreement.
- 5.2. The Supplier agrees that all information provided to the Client in compliance with this Agreement and Czech legislation can be published by the Client, including this Agreement.

6. THE PURCHASE PRICE

- 6.1. The total price of the Equipment and other performance of the Supplier under this Agreement is CZK **754 037,00** excluding VAT (the "**Purchase Price**"), CZK **912 384,77** including VAT and CZK **158 347,77** VAT.
- 6.2. The Supplier explicitly declares and assures the Client that the Purchase Price includes all the costs of the Supplier associated with the performance of this Agreement. The Purchase Price is final. The Purchase Price includes in particular:
- transport of the Equipment to the place of performance (see paragraph 2.1. of this Agreement);
 - the remuneration for use of software necessary for operation of the Equipment;
 - training of the staff of the Client concerning use of the Equipment,
 - guarantee service (including labour, material and travel and accommodation costs) and upgrade of the software to the Equipment within the guarantee period;

- e) the costs of proper packaging;
 - f) fees;
 - g) guaranty to the extent specified by this Agreement;
 - h) all other costs and fees necessary for proper fulfilment of this Agreement.
- 6.3. The Purchase Price does not include VAT in accordance with the Act No. 235/2004 Coll., on Value-Added Tax, as subsequently amended ("**Value-Added Tax Act**"); the Purchase Price shall be increased by VAT, which the Supplier will have to pay or declare in any form according to the Value-Added Tax Act, in the wording in effect on the day of taxable supplies. The Purchase Price already includes all the possible taxes and fees that the Supplier may have to pay or declare in any form under any applicable foreign laws.
- 6.4. The Supplier undertakes to inform the Client immediately in writing about the fact that the tax administrator has issued a decision that the Supplier is an unreliable payer in the sense of the provisions of Section 106a of the Value-Added Tax Act. The Supplier is obliged to send this notice to the Client without delay after receiving such a decision of the tax administrator, no matter if this decision has already come into legal force.
- 6.5. The Supplier undertakes to inform without delay the Client in writing about the existence of the final decision of the tax administrator that the Supplier is an unreliable tax payer in the sense of the provisions of Section 106a of the Value-Added Tax Act, about the withdrawal of such a decision of the tax administrator and about the decision of the tax administrator that the Supplier is no longer an unreliable payer in the above-mentioned sense.
- 6.6. The Contracting Parties have agreed that the Client shall pay taxable performance to the Supplier (to a provider of taxable performance) only to the account of the Supplier which is published by the tax administrator in a manner enabling remote access; until the Supplier has provided the number of such a bank account, the obligation of the Client to pay the Purchase Price is not due. This provision shall not be used, if the Supplier is a person who is not registered as value added tax payer in the Czech Republic.
- 6.7. If the Supplier breaches its obligations listed in the preceding paragraphs of this Agreement, the Supplier must pay to the Client a contractual penalty in the amount corresponding to the liability incurred by the Client by virtue of its guarantee (i.e. in the amount of unpaid VAT). The payment of such a contractual penalty does not limit or otherwise affect the right to the compensation for the (also non-material) damage causally connected with the breach of the obligation, to which the contractual penalty applies.

7. THE TERMS OF PAYMENT

- 7.1. The Purchase Price shall be paid by the Client in CZK. The Purchase Price shall be paid based on an invoice (a tax document) issued by the Supplier in compliance with this Agreement.
- 7.2. Should the invoice issued by the Supplier not have the adequate particulars required by this Agreement or legislation, the Client is entitled to return it within the due date to the Supplier for completion without exceeding the due date. The period of the due date begins a new once the properly completed and corrected invoice is delivered to the Client again.

7.3. The Particulars of the Invoice

The invoice issued by the Supplier according to this Agreement must contain at least the following particulars:

- 7.3.1. a reference to this Agreement;
 - 7.3.2. all the details of a proper accounting and tax document required by the relevant legislation (mainly, but not exclusively, the Value-Added Tax Act);
 - 7.3.3. the description of the invoiced Equipment and the invoiced price;
 - 7.3.4. a copy of the respective handover protocol on the takeover of the Equipment by the Client as an attachment;
- 7.4. If the requirements for the issue of an invoice (tax document) based on this Agreement are met, the Supplier is obliged to deliver this invoice to the Client without undue delay, not later than within 3 working days from fulfilment of the respective conditions for issue of the invoice under this Agreement. The invoice issued by the Supplier in accordance with this Agreement is due within 30 days counted from delivery of the invoice to the Client.
- 7.5. If the invoice is issued in accordance with this Agreement, the Client shall pay it by the due date. The Client shall pay the amount owed by sending it to the Supplier's account listed in this Agreement or to another account of the Supplier specified by the Supplier in writing in accordance with this Agreement.

8. SANCTIONS

- 8.1. Should the Supplier be in default with the handover of the Equipment in terms of the time limits set in this Agreement the Supplier is obliged pay to the Client a contractual penalty in the amount of 0,05 % of the Purchase Price for each commenced day of delay.
- 8.2. Should the Supplier be in default with satisfaction of a claim arising from defects raised by the Client within the time limit for satisfaction of a claim according to this Agreement, the Supplier is obliged to pay to the Client a contractual penalty in the amount of 0.05 % of the Purchase Price, for each commenced day of delay and for each individual case of delay.
- 8.3. If the Client is in arrears with payment of an invoice properly issued by the Supplier and delivered to the Client in accordance with this Agreement, the Supplier is entitled to interest on late payment in the amount of 0.05 % of the amount owed for each commenced day of delay.
- 8.4. Exercise of a claim for contractual penalty does not limit the right on compensation for the (also non-material) damage in the full extent of such a damage.
- 8.5. The penalty payment notice must be sent in writing; the contractual penalty is due within 14 calendar days from the date of delivery of the notice.

9. MUTUAL COMMUNICATION OF THE CONTRACTING PARTIES

- 9.1. All the communication or other negotiations of the Contracting Parties in connection to this Agreement shall be addressed in English to the below-listed representatives of the Contracting Parties according to this Agreement. Should this Agreement require a written form for some communication or other negotiations between the Contracting Parties, such a communication shall be sent through a postal service provider to the registered address of the respective Contracting Party to the attention of the

representative of this party according to this Agreement or handed over to this representative in person against a written confirmation of receipt.

- 9.2. For the purposes of this Agreement, the Client is represented by:
in technical issues:

[REDACTED]

in business relations:

[REDACTED]

For the purposes of this Agreement, the Supplier is represented by:

in technical issues:

[REDACTED]

in contractual matters:

10. AMENDMENTS TO THIS AGREEMENT AND ITS DURATION

- 10.1. This Agreement may only be amended or modified by numbered written addenda signed by both Contracting Parties. The provisions of Section § 558, Subsection 2 of the Civil Code shall not be applied.
- 10.2. This Agreement shall enter into force upon its signing by both Contracting Parties and shall become effective upon its publication in the Register of Contracts under the Act. No. 340/2015 Coll.
- 10.3. **Withdrawal from the Agreement**

Should there be a delay in the performance of the contractual obligations of one Contracting Party, the other party is entitled to terminate this Agreement by withdrawing from it in compliance with the provisions of Section 2001 et seq. of the Civil Code. In the event of a substantial breach of contractual obligations, the other party is entitled to withdraw from the Agreement provided that the delayed party is informed about the withdrawal without undue delay following to the acknowledgement of the respective breach. If a party does not, in the event of a substantial breach of the Agreement, withdraw from this Agreement without undue delay, it may withdraw based on the same breach by following the procedure applicable for a minor breach of the Agreement. A substantial breach of contractual obligations is particularly, but not exclusively:

- 10.3.1. on the side of the Supplier: if the Supplier does not properly fulfill its duty to handover the Equipment within the time limit under this Agreement;
- 10.3.2. on the side of the Supplier: if the Supplier does not, within the time limit under this Agreement, properly remove defects or satisfy the claims from the defects of the Equipment chosen by the Client based on the defects listed in the handover protocol;
- 10.3.3. on the side of the Client: a delay in the payment of the Purchase Price based on an invoice properly issued in accordance with this Agreement longer than 30 days;
- 10.3.4. on either side: a breach of other obligations, which is considered a substantial breach of contractual obligations by this Agreement.

In the event of a minor breach of contractual obligations, the other party is entitled to withdraw from the Agreement provided that the delayed party does not fulfill its obligation even within a reasonable additional period that has been provided to it.

10.4. The Assignment of the Rights Arising from the Agreement and Set-off

10.4.1. The Supplier is not entitled to assign this Agreement or its part or transfer any of its claims arising from this Agreement or its part to a third party without the prior written consent of the Client.

10.4.2. The Supplier agrees that its claims against the Client arising from this Agreement cannot be unilaterally set off.

10.4.3. The Supplier is aware of the fact that the consent of the Client with the assumption of any debt (obligation) of the Supplier arising from this Agreement by a third party must be given by the Client in writing.

11. FINAL PROVISIONS

11.1. This Agreement as well as any non-contractual obligations related to this Agreement are governed by Czech law.

11.2. The Supplier acknowledges that the Client, as the beneficiary of the project specified above is obliged to comply with the rules of publicity and to promote the Project in accordance with the rules of the Provider.

11.3. Business practices concerning the agreed or follow-up performance do not take precedence over contractual arrangements or provisions of law, even if such provisions do not have overriding mandatory effect.

11.4. If the circumstances after the conclusion of the Agreement change to such an extent that the performance will be more difficult for the Supplier or there will be a gross disproportion between the rights and obligations of the Contracting Parties, it does not affect in any way the Supplier's obligations arising from this Agreement; the provisions of Section 1765, Subsection 1 and 1766 of the Civil Code shall not be applicable and the Supplier, in accordance with Section 1765, Subsection 2 of the Civil Code, assumes the risk of changing circumstances.

11.5. The Contracting Parties exclude the application of the provisions of Sections 1799 and 1800 of the Civil Code on clauses in adhesion contracts.

11.6. Neither of the Contracting Parties is authorized to incorporate any right arising from the Agreement or its breach into a security.

11.7. The presumption of the mail delivery period according to provisions of Section 573 of the Civil Code is not applicable between the Contracting Parties.

11.8. The provisions of this Agreement are severable in the sense that if some of the provisions of this Agreement become invalid, it does not annul the entire Agreement. In such case, the Contracting Parties undertake to replace the invalid provision by a valid one that best meets the intended purpose of the invalid provision. Until then, the relation between the Contracting Parties is governed by applicable legislation of the Czech Republic.

11.9. Any controversy arising out of this Agreement or in connection herewith shall fall within the jurisdiction of the locally competent court based on the place of business of the Client.

11.10. This Agreement has been made in two counterparts, of which the Client shall receive one counterpart and the Supplier one counterpart.

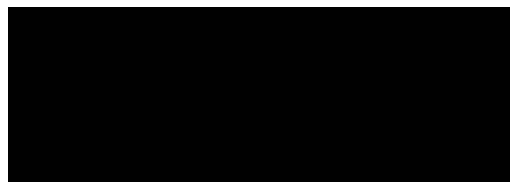
11.11. The following appendices form an integral part of the Agreement: Appendix 1 – Equipment Specification, Appendix 2 – List of subSuppliers or declaration of honour of the Supplier stating that the subSuppliers shall not be used for performance of this Agreement, Appendix 3 – Performance test

In Prague

In Brno

**Ústav organické chemie a biochemie AV
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M Computers s.r.o.



Prof. RNDr. Jan Konvalinka, CSc.
Director

Ing. Lenka Navrátilová,
authorised representative by proxy

Appendix 1 – Equipment Specification

1. Scratch drives

M.2 NVMe drives (section 1.1) and SATA SSD drives (section 1.2) are requested.

1.1 NVMe M.2 drives

technical specifications:

- drives must be compatible with [Intel S2600BPB](#), installed in the backside of Riser Card 2
 - no heat sink may be installed due to space restraints (2mm maximal thickness of components above/below PCB, total thickness max 3 mm (single sided) or 5 mm (double sided))
- connection: PCIe 4.0 4x NVMe or higher. Must be backwards compatible with PCIe 3.0.
- form factor: M.2 (2280)
- lifespan: at least 0.3 DWPD (Drive Writes Per Day) for 5 years
- performance:
 - sequential read/write at least: 2400 MB/s (test 1)
 - random read/write at least: 200k IOPS (test 2)
 - write latency: average at most 40 us (test 3)
 - read latency: average at most 100 us (test 3)

number of delivered drives: The following drives sizes are requested:

- 178x min. 1 TB
- 42x min. 2 TB
- 9x min. 4 TB

1.2 SSD SATA drives

technical specifications:

- connection: SATA 3
- form factor: 2.5 inch
- lifespan: at least 1 DWPD (Drive Writes Per Day) for 5 years
- performance:
 - sequential read/write at least: 240 MB/s (test 1)
 - random read/write at least: 20k IOPS (test 2)
 - write latency: average at most 60 us (test 3)
 - read latency: average at most 300 us (test 3)

number of delivered drives: The following drives sizes are requested:

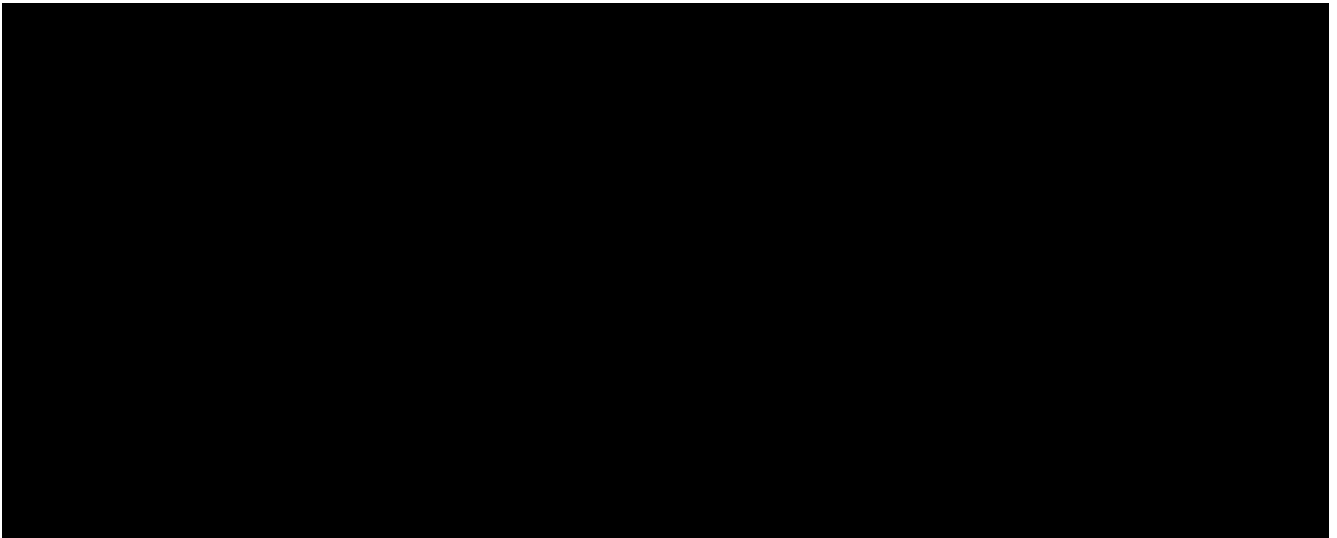
- 5x min. 7.68 TB

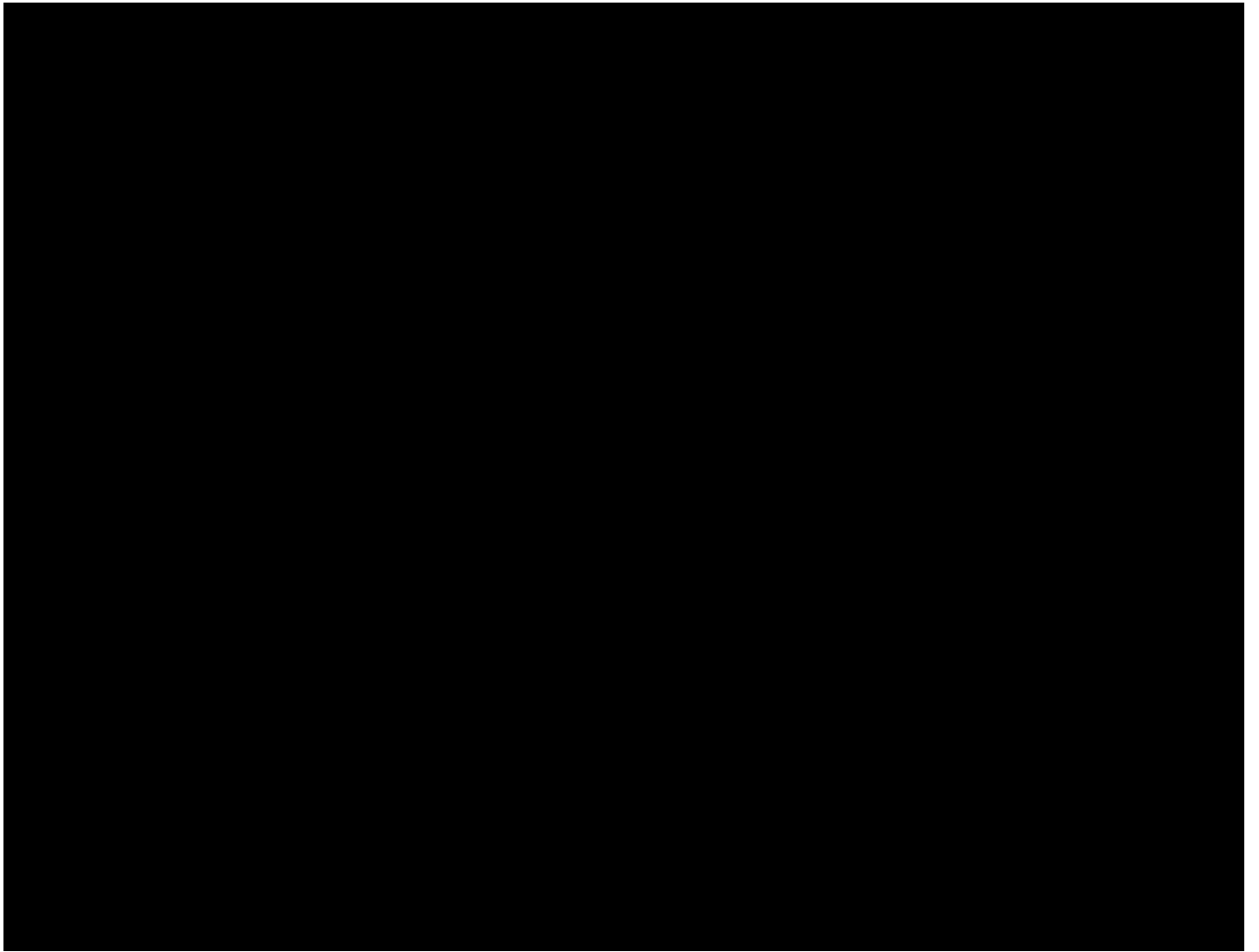
Software License Agreement:

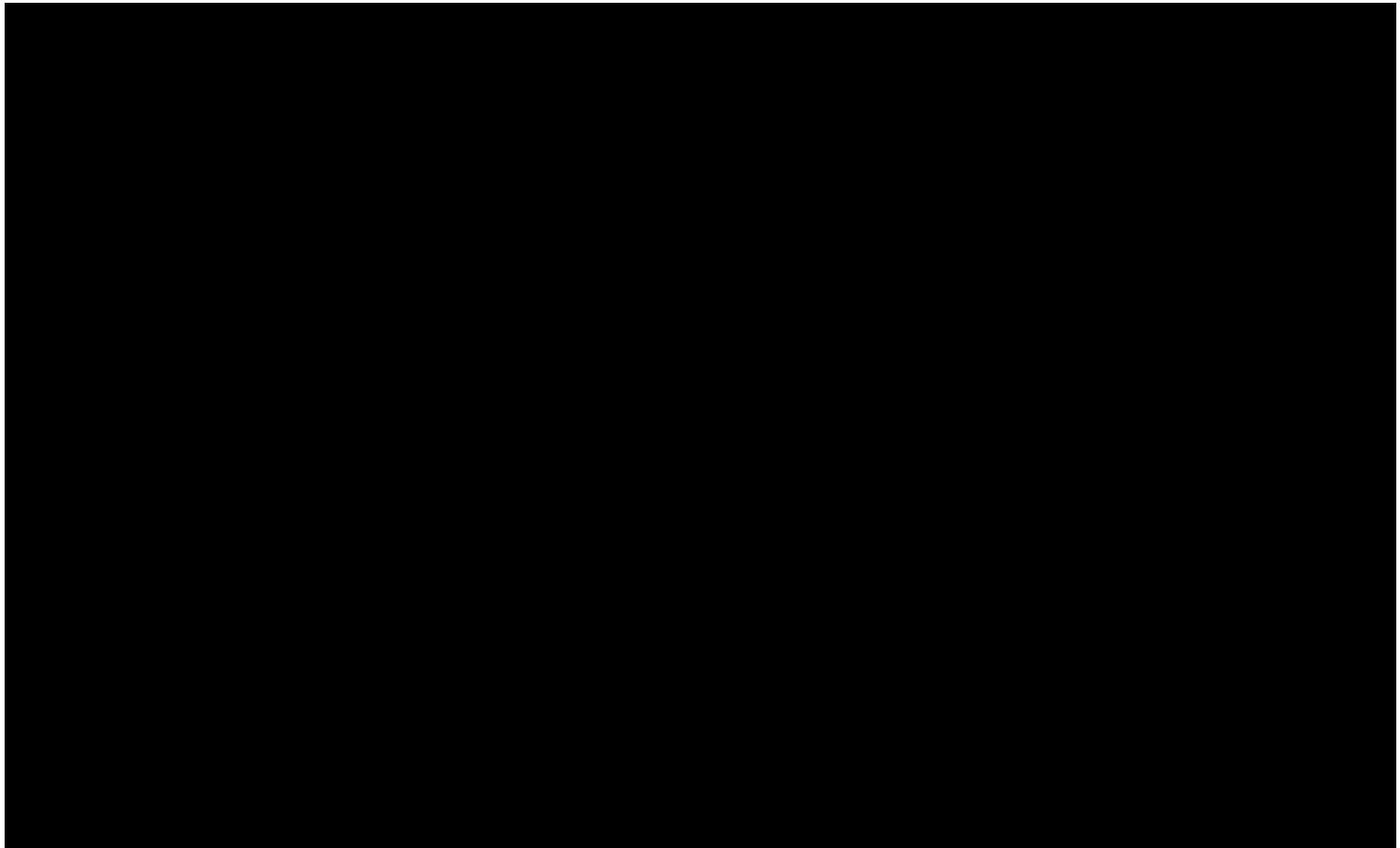
The Supplier grants to the Client the right to use the software to the extent necessary for the fulfillment of the purpose of this Agreement from the moment of acquisition of the ownership right to the Equipment by the Client. The Supplier grants to the Client a non-exclusive, territorially and time-indefinite license to use the software.

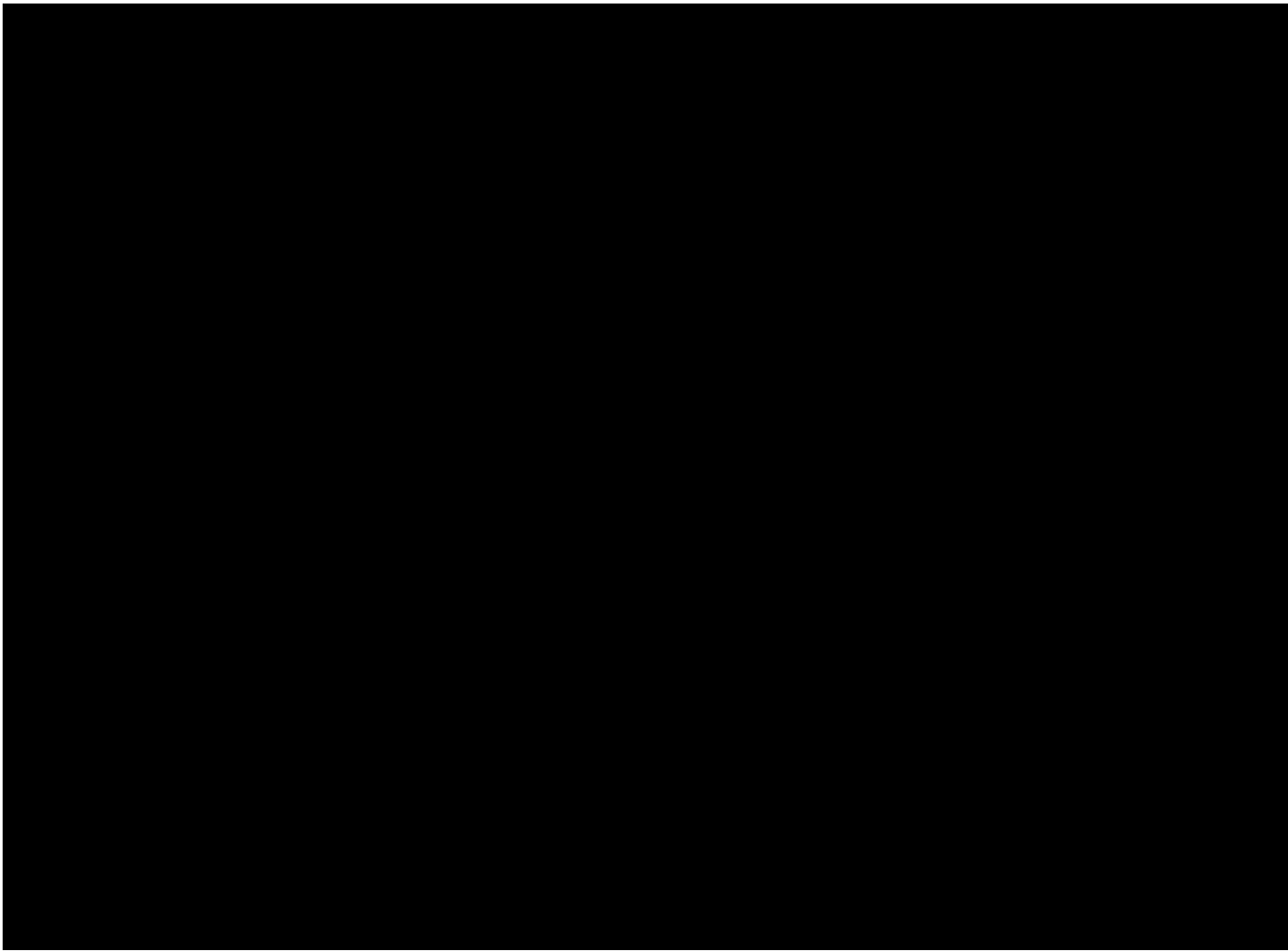
The Supplier declares that the Client will not be obliged to undertake any paid modifications or software updates that would condition the fulfillment of the purpose of this Agreement and the functionality of the Equipment. The Supplier undertakes to upgrade the software during the guarantee period free of charge. The Supplier declares that it is entitled to grant to the Client a license authorization to the extent specified above.

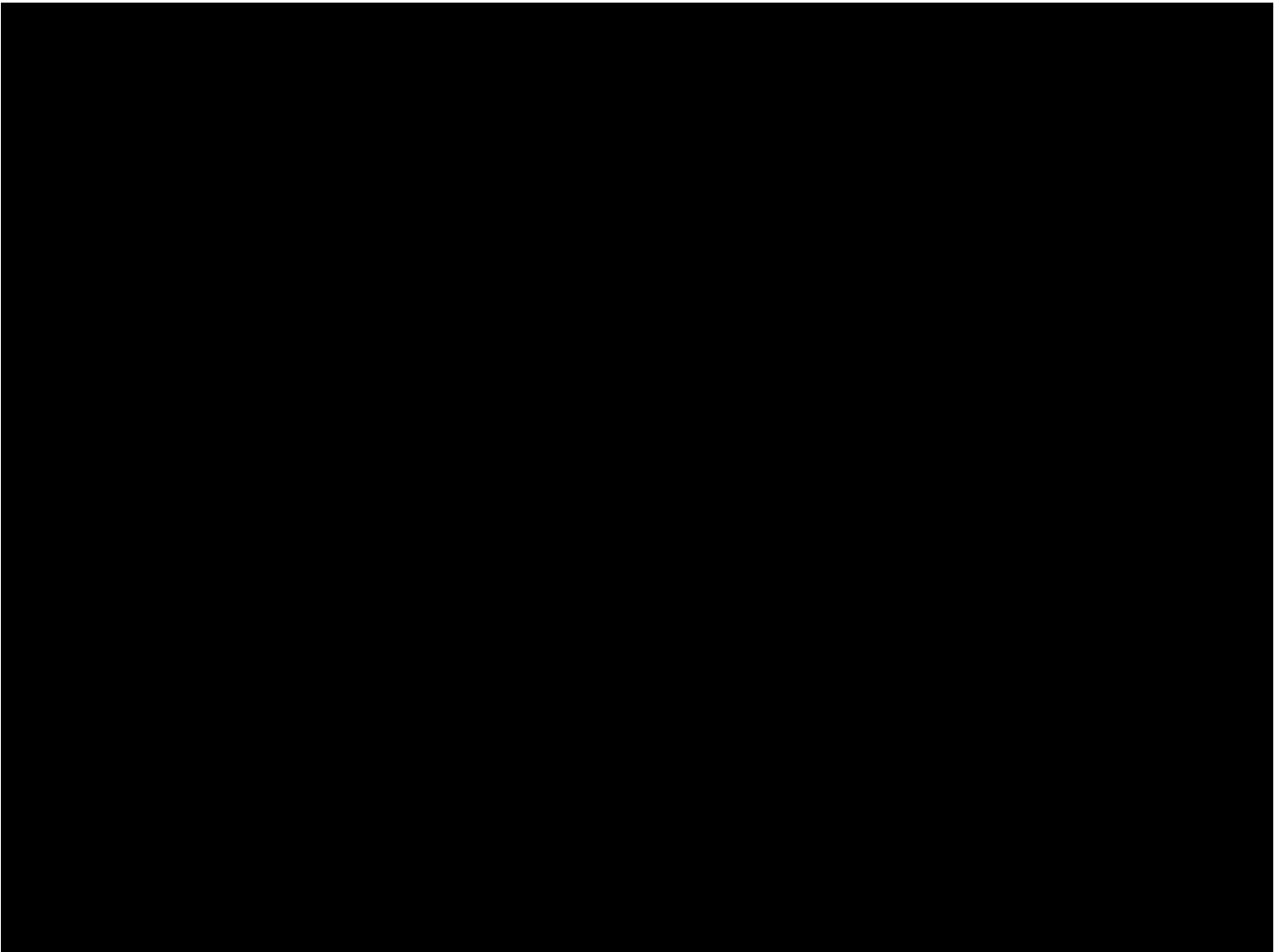
The Supplier declares that the Equipment meets the above technical parameters, while the exact specification of the Equipment (including the specification of the entire Assembly) is stated by the Supplier below:









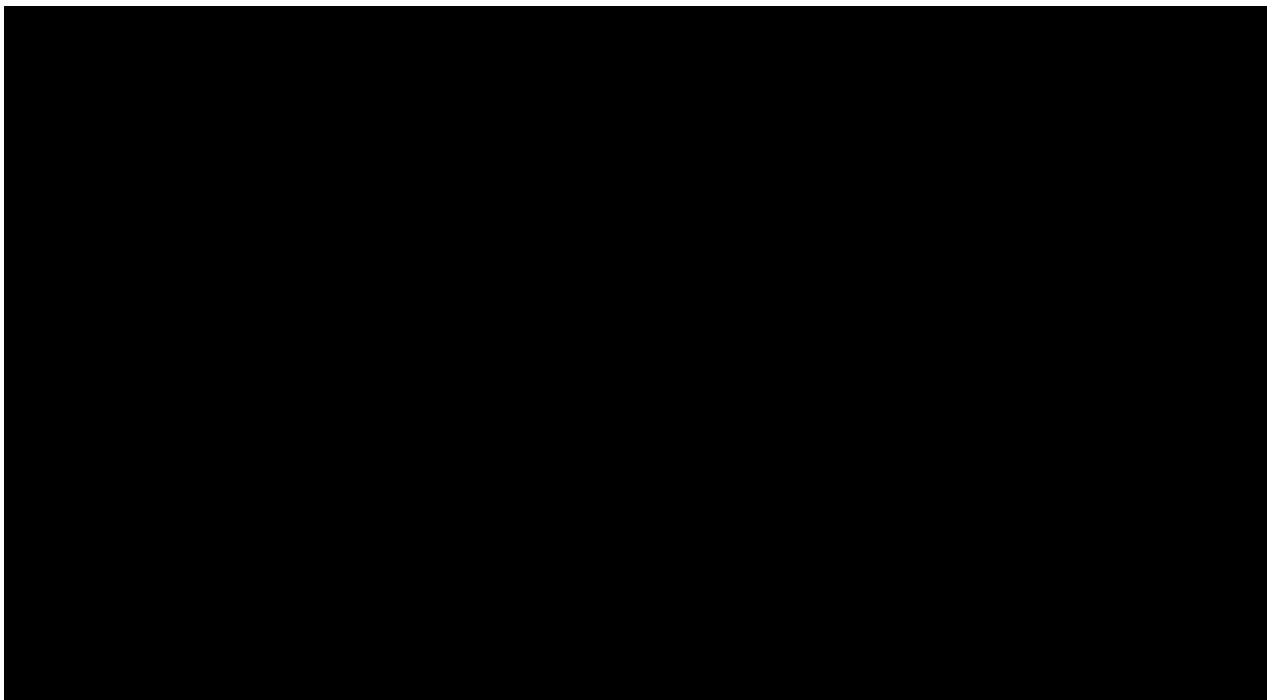




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Appendix 2 – List of subSuppliers or declaration of honour of the Supplier stating that the subSuppliers shall not be used for performance of this Agreement



Attachment no 3. Performance test

The tests will be performed using the fio tool (<https://github.com/axboe/fio>), version 3.35 or newer. Tests will be performed in the system: Intel S2600BPB with 2x 18 core Intel(R) Xeon(R) Gold 6140 CPU @ 2.30GHz and at least 90 GB of RAM, connected via PCIe 3.0 in the backside of riser card 2, running Rocky Linux release 9.3 or newer with linux kernel 5.14 or newer. The drives will be formatted to ext4 filesystem and mounted to `/mnt/scratch/`.

test 1

```
fio --filename=/mnt/scratch/fio_test --size=20G --direct=1 --rw=readwrite --bs=256k --ioengine=libaio --iodepth=64 --runtime=120 --numjobs=4 --time_based --group_reporting --name=throughput-test-job
```

test 2

```
fio --filename=/mnt/scratch/fio_test --size=20G --direct=1 --rw=randrw --bs=4k --ioengine=libaio --iodepth=256 --runtime=120 --numjobs=4 --time_based --group_reporting --name=iops-test-job
```

test 3

```
fio --filename=/mnt/scratch/fio_test --direct=1 --rw=randrw --bs=4k --ioengine=libaio --iodepth=1 --numjobs=1 --time_based --group_reporting --name=rwlatency-test-job --runtime=120
```

The test will be performed using an empty drive.

The drives must exceed the following minimal values (for throughput and iops tests) and have latencies below the following maximal values:

system	throughput tests	iops tests	latency tests	latency tests
	sustained sequential (256KB transfer) read/write	sustained random (4KB transfer) read/write	read latency	write latency
	read/wrie (MB/s)	read/write (IOPS)	read latency (us)	write latency (us)
M.2 NVMe	2400	200 000	100	40
SATA SSD	240	20 000	300	60

For reference we report values measured in the system as specified above for two selected drives:

system	throughput tests	iops tests	latency tests	latency tests
	sustained sequential (256KB transfer) read/write	sustained random (4KB transfer) read/write	read latency	write latency
	read/wrie (MB/s)	read/write (IOPS)	read latency (us)	write latency (us)
Samsung SSD 980 PRO 1TB	2834	262 000	46.31	18.57
KINGSTON SEDC600 0.96 TB	277	23 000	142.00	30.59