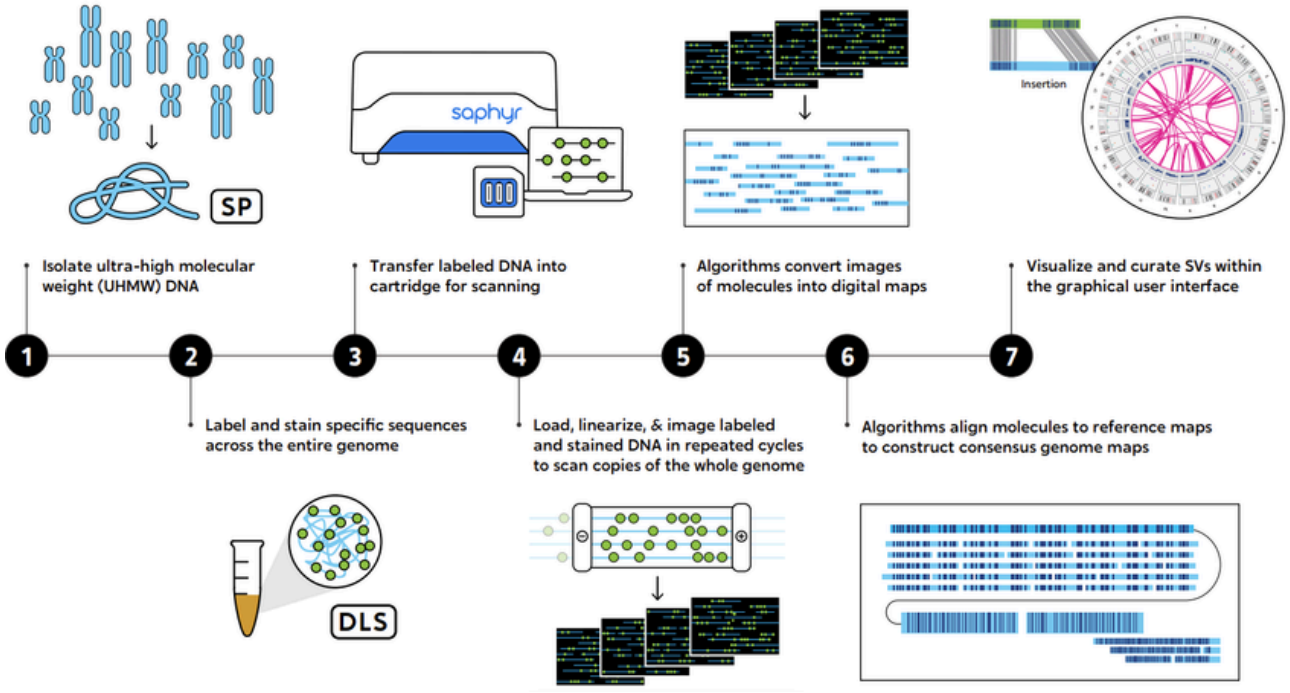
Bionano Compute Solutions: Flexible and Scalable On-premise and Cloud Computing Options

Bionano compute solutions include a complete suite of hardware, software, and cloud-based solutions for end-to-end experiment management and bioinformatics processing of OGM data. The Saphyr® Compute Server and Bionano™ Compute Server offer on-site cluster-like performance in an affordable, compact solution, capable of performing multiple simultaneous analyses and sustaining continuous throughput. Bionano™ Compute On Demand is a pay-per-use solution accessible through Bionano Access® web server for your Bionano™ Solve operations. Compute On Demand simplifies the way you perform genome assembly, hybrid scaffolding and structural variant analysis, without the need of any additional infrastructure, giving you the flexibility and scalability your experiment deserves.

SAPHYR® WORKFLOW



OVERVIEW OF COMPUTE OPTIONS

COMPUTE SERVER

- Control compute costs with on premise solution
- Execute consistent workloads
- Internet access not required
- Reliable access to compute resources

COMPUTE ON DEMAND

- Execute variable workloads
- No upfront server costs required
- Data centers compliant with IPAA, CSA, SOC2, ITAR regulations
- Work on large genomes up to 24 Gbp genome size

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Typical Ranges for Bionano Solve Processes

HUMAN	North America Tokens		Germany Tokens		Europe Tokens		Typical Job Processing Time**
Compute On Demand	typical	min/max	typical	min/max	typical	min/ max	
De novo assembly*, 400 Gbp	9	1/22	22	1/38	10	1/29	12-24 hours
De novo assembly*, 800 Gbp	12	1/25	25	1/45	11	1/31	18-50 hours
Rare Variant Analysis, 1500 Gbp	8	3/38	24	3/38	8	3/38	10-12 hours
Rare Variant Analysis, 5Tbp	30	5/75	95	5/125	30	5/75	15-30 hours
EnFocus™ FSHD/Fragile X	4	1/8	7	3/8	4	1/8	2-4 hours
Guided Assembly, Constitutional 800Gbp	10	3/38	17	3/64	10	3/38	8-20 hours
Guided Assembly, Low Allele Frequency 1500Gbp	11	3/38	12	3/64	11	3/38	10-20 hours

Compute Server, Gen4	Typical Time to Complete†	Typical Sample Throughput††	
		ONE SERVER	TWO SERVERS
De novo assembly*, 400 Gbp	10-16 hours	10-16 per week	20-30 per week
De novo assembly*, 800 Gbp	13-20 hours	8-12 per week	20-30 per week
Rare Variant Analysis, 1500 Gbp	5-8 hours	20-30 per week	40-60 per week
EnFocus™ FSHD/Fragile X	1-2 hours	Up to 60 a week	N/A

Token ranges provided here are typical for good quality data, defined as having Map Rate > 80%, molecule N50 (>20kbp) > 180kbp. Actual min/max ranges are calculated for each submitted compute job based on data quantity and quality.
*de novo assembly runs without a reference will require more processing to first generate an automatic rough assembly. The "max" may vary based on quality of input data
**Time to complete hours are estimated based on the users of the current version of Bionano Access and availability of cloud resources. Queue time to initate processing with cloud resources can vary significantly.
†Typical time to complete hours are estimated based on internal tests processing good quality data using the current version of Bionano Access.
††Estimated sample throughput based on typical processing time of good quality data with network access to compute resources spanning 7 days per week.

	Part No.	Product
Computing Hardware	80083	Saphyr Compute Server, Gen4
	80084	Bionano Compute Server, Gen4
Cloud Computing	90047	Bionano Compute On Demand, US
	90052	Bionano Compute On Demand, Germany
	90060	Bionano Compute On Demand, Europe
	90128	Bionano Compute On Demand, Canada

Contact your Bionano Regional Business Manager to get started.

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