



# Genomics Pipelines\*

Analyse big data efficiently and reproducibly

\* also known as Workflows



- One-off or regular analyses
- Local or off-site installation and execution
- Seamlessly integrate open-source and commercial components
- Compatible with existing compute clusters, and the cloud

## Fast and accurate analysis

- Need to analyse data from your NGS projects, but don't have the know-how or capacity to handle it?
- Want to run larger and more complex genomic analyses, but are being limited by available IT resources?
- Looking to run occasional large-scale analyses, but not regularly enough to justify buying new hardware?
- Have an important or urgent research question, but not sure how to implement a bioinformatics procedure to help answer it?

Regardless of whether the analysis is one-off, or is something that needs to be run regularly, Eagle analysis pipelines can help.

Pipelines can be executed remotely on Eagle-managed resources and results delivered back to the customer, or they can be installed locally for direct use by the end-user – either behind a web interface or on the command-line, and on in-house hardware or in the cloud.

*"It is a pleasure to deal with someone you can rely on for impartial decoding of a complex subject."*

Martin Lawrie, Managing Director,  
Cytocell

in-silico remote  
variation assembly gene  
flexible miRNA mapping  
cloud SNP genomics flexible  
validation virtualisation cluster grid  
virtual machine DNA  
replication bioinformatics NGS local RNAseq  
microarray comparative genomics genetics  
ChIP-seq annotation RNA biomarkers  
high-throughput prediction



# Eagle on-demand

*Bioinformatics expertise when you need it*



- Short-notice access to expertise
- Bunch the work together or spread it out
- Use Eagle staff only when needed
- Utilise our expertise for anything from exploring new research ideas to maintenance tasks
- Eagle's consultants all have many years' experience in bioinformatics

## *No more capacity worries*

- Experiencing fluctuations in demand in your bioinformatics team?
- Want to test a new idea or technology?
- Seen something interesting in the literature and lacking the time or resources to try it out?
- Project deadline approaching, but don't have enough staff to deliver?

## **Pre-purchased, guaranteed availability**

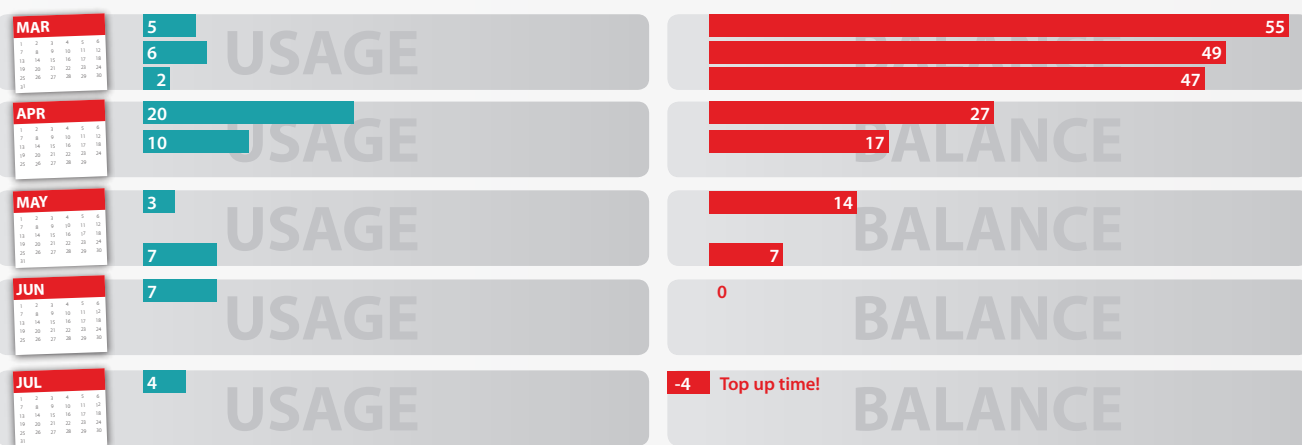
Recruiting and retaining a bioinformatics team with sufficient experience and appropriate skills can be a headache – so why not outsource?

We are bioinformatics experts who work on any task under the sun that relates to genomic data or placing data into the context of the genome.

A dedicated Eagle bioinformatician is assigned to the project to act as a single point of contact and has instant access to our entire team's knowledge and experience.

Eagle's on-demand service is available on your site or remotely. It is ideal for getting assistance with projects that are too small or loosely defined to be able to specify in full for traditional outsourcing.

**Example usage: 60 hours over 6 months**





# Cloud Migration

*Flexible, scalable, lower cost bioinformatics*



- No-nonsense approach to feasibility studies – we understand your specific situation and recommend only what works
- Eagle's innovative designs lead to efficient, and effective, cloud solutions
- Eagle are an Amazon Web Services™ Partner Network Consulting Partner

## *Want to try out the cloud?*

- Is your research being slowed by lack of capacity in your IT systems?
- Do you need to speed up your R&D pipelines?
- Want to test your existing tools and systems in a cloud environment?
- Seeking productivity gains without in-house investment?
- Struggling to manage big data?

## **Ask the experts**

Eagle migrates your existing bioinformatics software systems to the cloud. We can also develop completely new systems designed from the ground up to take maximum advantage of cloud architecture.

We encounter, address and overcome common concerns with cloud computing – security, data transfer, cost, and scalability. We help you attain significant ROI on cloud-based bioinformatics projects.

Eagle's track record in deploying successful cloud computing solutions for bioinformatics projects is second-to-none.

Unilever commissioned Eagle to deploy a key NGS analysis pipeline in the Amazon cloud.

*"Unilever's digital data program now processes genetic sequences twenty times faster – without incurring higher compute costs. In addition, its robust architecture supports ten times as many scientists, all working simultaneously."*

Pete Keeley, eScience IT Lead for Cloud, **Unilever Research**

**Amazon Web Services case study.**

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# ElasticAP™

*Store, share and analyse any life science data in the cloud*



- Built on years of experience in designing NGS analysis pipelines and hosting secure cloud apps
- Results and analyses can be securely shared over the web with collaborators and colleagues
- Simple PAYG or subscription models for predictable budgeting and flexible access

- Are you struggling to store and analyse NGS or other big data in-house?
- Do you have concerns about current data-sharing methods for external collaborations?
- Are duplication and redundancy in your research IT platform costing you too much?

ElasticAP is a *secure*, web-based integrated platform for managing life sciences data big or small in the cloud. Designed for collaboration over the web, researchers use their usual browser to upload and analyse data via a host of applications and pipelines or workflows. The data and results can easily and securely be shared over the web with in-house colleagues and external collaborators, too.

Standard applications in ElasticAP include the Ensembl™ genome browser and Galaxy pipeline management tools. These, along with a large collection of public biological datasets, can be seamlessly combined with users' uploaded data for fully integrated analyses. Command-line terminal access is also available for power users.

Eagle has years of experience in designing bioinformatics solutions that meet the requirements of biologists. ElasticAP combines this knowledge with Eagle's track record of delivering secure cloud-based solutions, making it easier for customers to answer key research questions and reduce IT administration headaches and costs.



Powered by:



ElasticAP is a registered trademark of Eagle Genomics Ltd.  
Ensembl is a registered trademark of Genome Research Ltd.

ElasticAP was driven by the pressing need for cloud-based sequence data management and analysis, coming from the Pistoia Alliance – the global, pre-competitive, life-science alliance founded by big pharma.

*"The implementations resulting from the Sequence Services project address a key need in modern life science R&D by helping companies significantly reduce individual infrastructure management costs while positioning themselves to meet future challenges in NGS data management."*

John Wise, Executive Director, **Pistoia Alliance**



# Breathing life into big data

## ***The Eagle™ Way***

Eagle builds collaborative relationships with commercial vendors and open-source projects in order to gain access to the very latest technologies. We then apply the best of these when building solutions for you, using only the most appropriate and effective techniques for each project.

## ***Big Pharma use Eagle***

Eagle supplies quality outsourced bioinformatics solutions. We combine big data and cloud computing expertise with our in-depth knowledge of genomic data analysis and in-house compute platforms. We ensure that no matter where our solutions are deployed, they are scalable, efficient, and designed perfectly to fit the project requirements.

## ***Transparency, Security, and Scalability***

Eagle's source code and workflow designs are always available for customers to explore, giving you full confidence in the suitability of the solution and the interpretation of results. We use tried and tested techniques to ensure our solutions scale to handle the biggest of datasets in the shortest possible amount of time. Eagle has established robust security procedures to ensure that customer data remains safe, secure and confidential at all times.

Eagle was named after the pub in Cambridge where Watson and Crick declared that they had discovered the structure of DNA in 1953. Sixty years later Cambridge has become a global centre for biotechnology research and since 2008 Eagle has been based right at its heart.

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