

# Built for Scalability

Scalability is at the heart of Thermo Scientific™ Chromeleon™ Chromatography Data System (CDS) design so it can support all stages of laboratory expansion, evolving effortlessly with any business.

Many laboratories start their CDS journey with standalone software purchased together with an instrument. The choice of instrument often drives the initial software selection, rather than the other way around. Over time more instruments may be acquired, either from the same vendor resulting in multiple standalone instances of the same CDS, or from different vendors leading to a proliferation of different software packages.

This can result in inefficiencies within the lab due to siloed data hindering data review, a lack of stations resulting in analysts queuing for access, or incompatible data formats restricting data insights. However, it is not just increasing demand that can highlight inadequacies. Meeting evolving regulatory and

data integrity requirements or addressing growing business challenges, such as the need for remote working, can underline shortfalls with the current software setup.

Eventually, there will come a tipping point where the software becomes a barrier to the business' growth and the lab is faced with evolving the software. This will trigger evaluations to decide whether to consolidate the software under one brand (if it is not already) and/or if it is possible to leverage more of the features from the current software to deliver the necessary capabilities for the future.

Designed to support each laboratory's evolution and offer a solution for either scenario, Chromeleon CDS is built with a flexible architecture and optimized to provide a scalable platform. This ensures that a laboratory can adopt the software at any point and it will fit with the existing infrastructure, without radical changes, reducing disruption and investment while providing maximum benefit and efficiency gains for the lab.

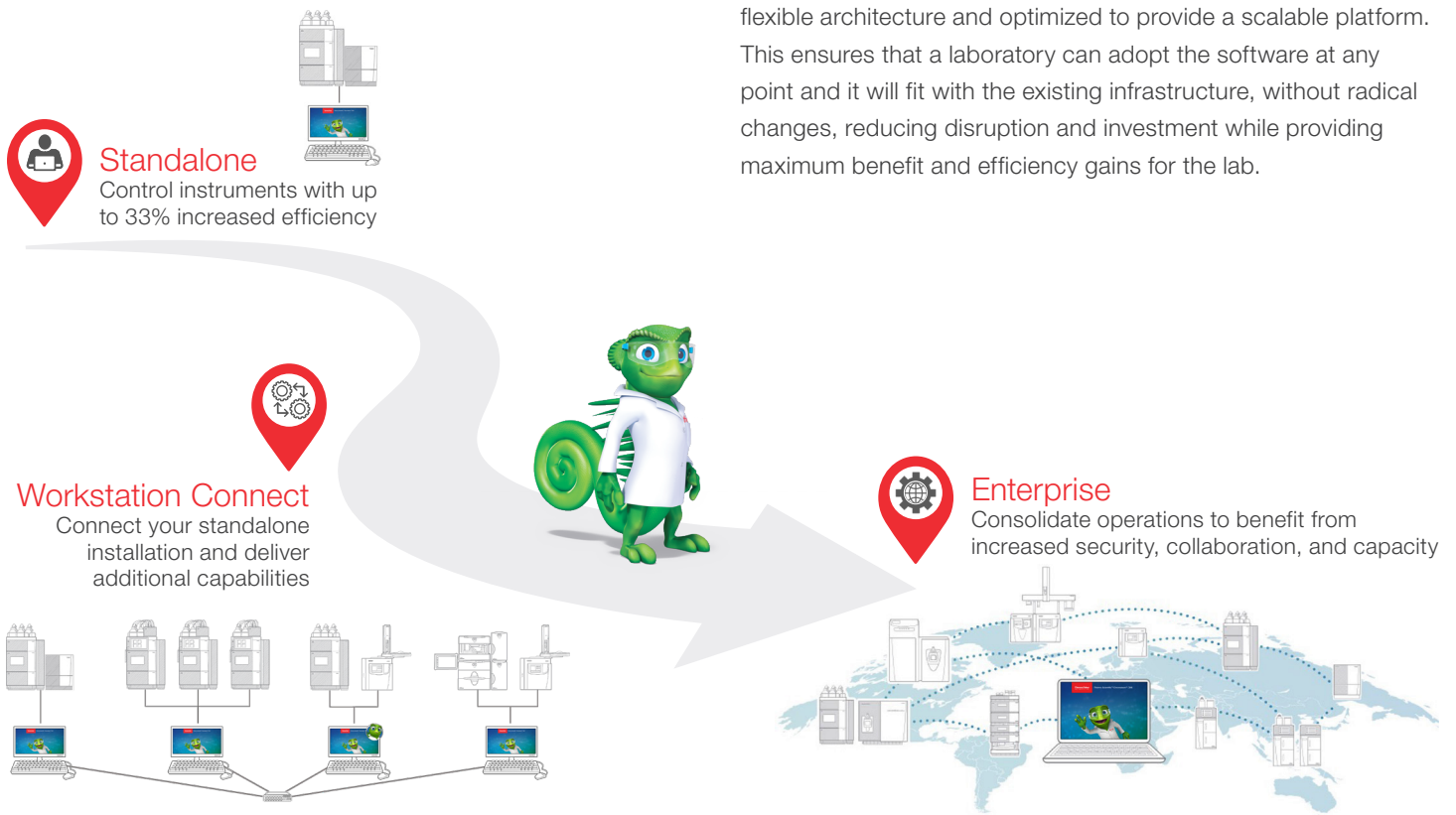


Figure 1. A typical CDS journey



## Control your instruments

Your CDS journey most likely started as a standalone installation, providing the necessary tools for you to control instruments and process and report data.

Chromeleon software provides flexibility in instrument choice with its gold standard multi-vendor control. It also enables analysis efforts to be reduced with more 'right first time' analyses; eWorkflow™ procedures, intelligent run control, spreadsheet-based reporting and dynamic data linking work together to simplify data analysis and deliver results faster with more confidence.

All this functionality is available regardless of where you are in your CDS journey, staying at the core of every installation, ensuring a consistent end-user experience.

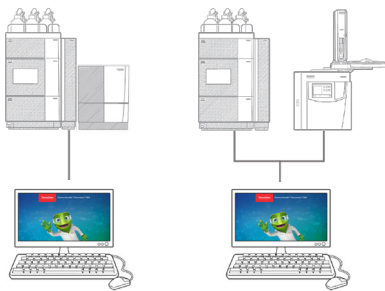
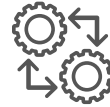


Figure 2: Standalone installation



## Extend your capabilities

For those laboratories currently operating with multiple standalone Chromeleon CDS instances, simply connecting them together enables a range of advanced capabilities, including improved data security and efficiency—we call this Workstation Connect. This allows you to get the most out of your data, while offering full compliance capabilities and providing a way for you to gain many advantages of a full network deployment but without the associated effort, cost and IT infrastructure.

Simply assign one computer as the Chromeleon Domain Controller and immediately all instruments and data can be accessed from any instance. Remote working is enabled, system and user administration is centralized, and data availability and exchange is improved. This increases collaboration while delivering enhanced security with compliance capabilities.

With Workstation Connect, enterprise-level support is added to provide fast resolution of issues, with access to upgrades and security updates, maximizing the uptime, reliability and performance of your business-critical software.

All labs can benefit from a networked system, removing inefficiencies, increasing availability and reducing training efforts. The importance of these benefits grows with the size of the lab but so does the risk.

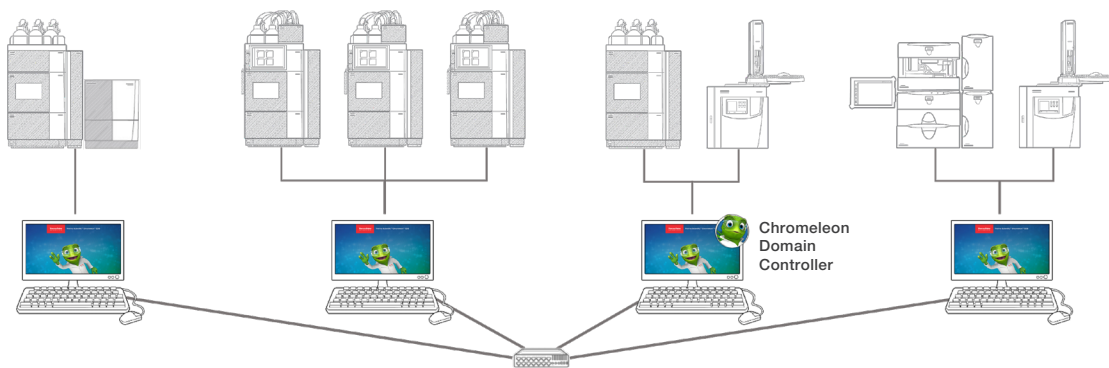


Figure 3: Workstation Connect



## Expand your network

Growing laboratories, whether running Workstation Connect or multiple standalone software instances, can move to an enterprise-level CDS by simply adding a server to the installation to provide central data storage and administration with consolidation of all software under one vendor.

An enterprise installation offers not just greater capacity and performance, but also enhanced security for your data. With centralized data storage, backup and archiving procedures can be put in place and you can utilize Network Failure Protection to ensure compliant operation independent of the network. So, if the network goes down, unique XVault™ technology will keep operations running, ensuring 24/7 laboratory uptime. After network recovery, data is automatically uploaded and synchronized to the central server, ensuring data security and integrity.

With centralized storage, all your data can be easily compared, searched and trended, offering insights into system usage, user actions, and method robustness.

As your laboratory continues to expand, additional servers can be added to distribute the workload between central resources with load-balancing and failover capabilities, ensuring the same performance as local operation and increasing reliability.

### Tailor to your business

With its modular architecture, Chromeleon CDS can be deployed in different configurations to support every laboratory. For example, if a business is located on a single site with LAN-connected labs, a single, central server setup may be appropriate. However, for a business with WAN-connected sites, a regionalized configuration may be used. Here, core administrative tasks are centralized, with local or regional data centers, optimizing data access and performance at each location.

Our experts can quickly determine and design the solution that is right for you.



## Connect to the Cloud

With its modern architecture, Chromeleon CDS is cloud-ready today. Any lab running a networked installation can deploy key elements in the cloud, such as servers, clients, and central data storage.

Utilizing a cloud-based approach, you can reduce initial costs and simplify the provision and management of data centers.

### Conclusion

Chromeleon CDS has been designed to offer seamless scalability from standalone to global, multi-site deployments. Centralizing, standardizing and harmonizing instrument control and data management eliminates the need to manage, operate, and train on multiple systems supporting both the requirements of the lab and IT.

Your CDS is a business-critical system so investing in a proven, supported, networked software will minimize risk and support business growth.

Chromeleon software scales with you and your laboratory to connect instruments, data, users, and sites. At all stages it delivers the same user experience and interface, with the same level of performance, no matter the size of the installation.



Figure 4: Enterprise installation

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