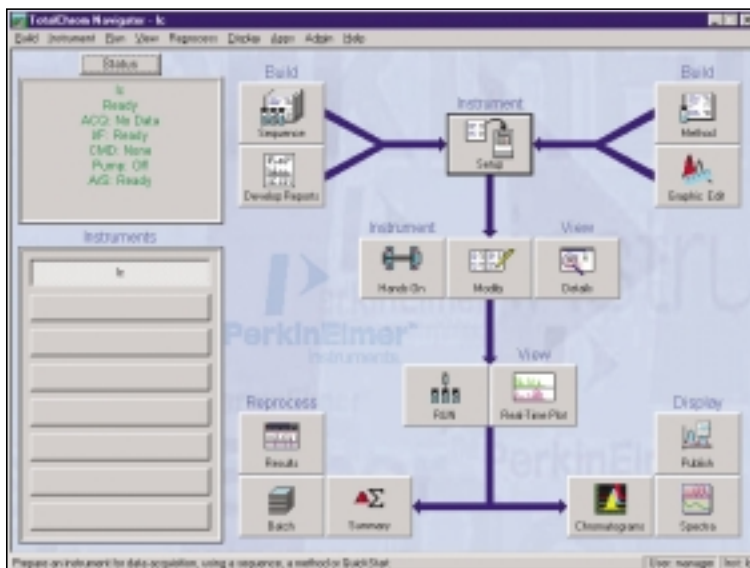


# TotalChrom Client/Server and Citrix MetaFrame XPe

## Reducing the Cost of Validation



### Introduction

For pharmaceutical labs that run multiple chromatography systems via client/server software, maintaining strict control over the chromatography software located on dozens and sometimes hundreds of individual workstations is time-consuming and expensive. Since each workstation must be configured identically and strictly controlled to maintain data integrity, new software upgrades and maintenance releases incur high re-validation costs and reduce productivity.

By implementing the award-winning TotalChrom Client/Server (C/S) Chromatography Data System (CDS) and Citrix, users are no longer required to run TotalChrom on each and every workstation in the laboratory. The TotalChrom installation is limited to the application servers which result in the reduction of systems that need to be maintained and/or validated,

significantly reducing costs, increasing productivity and accelerating the development and implementation of new applications.

### Reduced Validation

Since the Citrix MetaFrame XPe™ application serving platform does not require application software to run on the laboratory client workstations, the number of computers which need maintenance and revalidation is reduced to as few as one, depending on the individual lab configuration.

On the client workstations, users interact with the TotalChrom C/S user interface through the Citrix client. Functionality is similar to a web-server which displays the active server pages in a user's web browser.

### Key Benefits

- ▶ Maximize your investment, minimize validation costs
- ▶ Significantly reduce cost of ownership
- ▶ Increase system security
- ▶ 21 CFR Part 11 compliant
- ▶ Centralize system management
- ▶ Fast deployment of new applications and software releases
- ▶ Remote user access

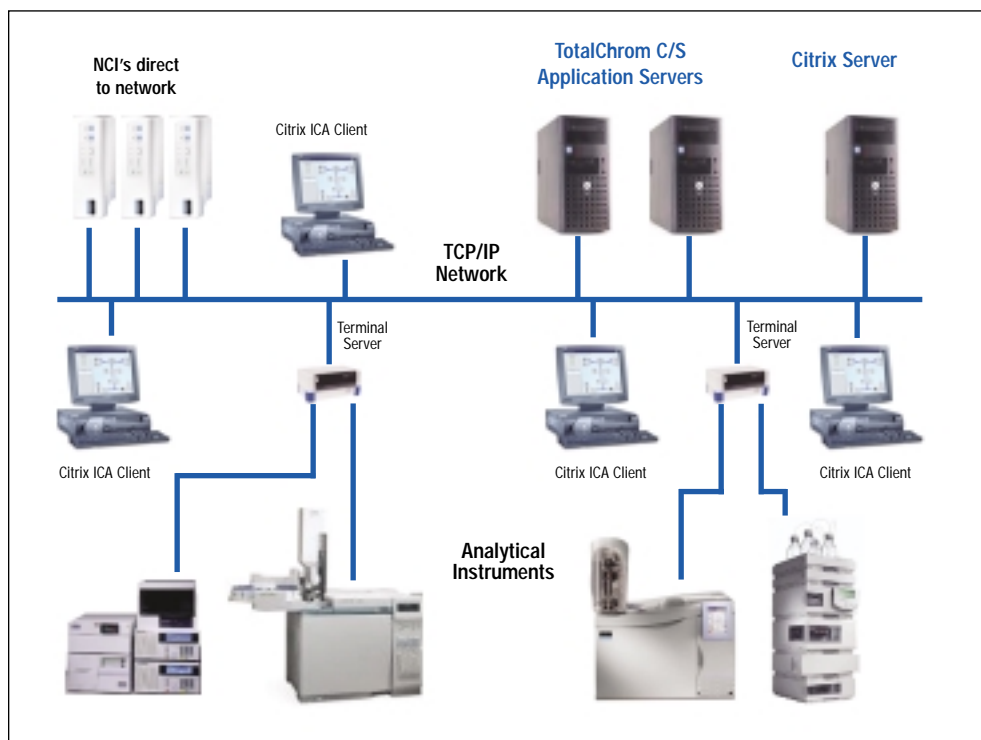


Figure 1. The TotalChrom and Citrix environment.

## Simplified System Management

The single installation of the TotalChrom C/S application allows system managers to quickly respond to and integrate software maintenance releases and upgrades, since they only have to be installed and revalidated once.

Administration of the CDS system is now reduced to a single point of entry at the application server, no matter how many users. This simplifies setup and maintenance, improving both system and user productivity.

## Flexibility

The Citrix MetaFrame XPe environment is platform independent, delivering MS-Windows-based applications to a variety of operating system environments. Less frequent operating system upgrades are needed, reducing system downtime and training costs.

Also, because the Citrix ICA client software only requires the equivalent of an Intel® 286 processor and access to 640 KB of RAM, more powerful PCs are required less often, reducing the total cost of ownership.

## Scalability

TotalChrom Client/Server software together with Citrix, offer the most flexible and scalable network architecture from small peer-to-peer workgroups to full-scale, enterprise-wide deployments (Fig. 1). The system consists of the following components:

- TotalChrom C/S Application Server: application and license management, creation of user accounts, user privilege assignment, instrument access and more. Also manages data acquisition, analysis, reprocessing and reporting.
- Citrix MetaFrame XPe Server: allows thin-client access to TotalChrom Client/Server software

- Clients: Citrix ICA client software provides user access to the TotalChrom C/S application software.

## Enhanced Support

PerkinElmer is one of a select group of companies that are part of the Citrix Solutions Partner Program. We are an accredited Silver Solutions Provider, allowing us to offer enhanced technical support and training for TotalChrom installations which utilize Citrix networks.

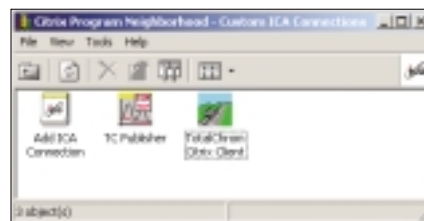


Figure 2. Citrix Program Neighborhood.

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