



Eenvoud in ICT

## Solutions Guide

*For:*

### **VIRTUALL - Showcase Environment**

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## Documentoverview

### History

Version	Date	Author(s)	Remarks
0.41	Feb 2006	Ruben Spruijt	Description of main solutions
0.5	Mar 2006	Rob Stoekenbroek	Applied templates and reordered layout
0.61	Apr 2006	Bas ter Heurne / Rob St	PQR corporate backgrounder

### Reviewers

Version	Date	Author(s)	Remarks

### Supporting documents

Reference	Date	Title

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# 1 OVERVIEW

Welcome to the VIRTUALL showcase of PQR! Here you will have the opportunity to view solutions and technologies up close and personal. We hope you will find the showcase a great place to learn more about why customers are turning into a virtualized access infrastructure solution.

A virtualized infrastructure offers many advantages: better utilization, greater flexibility, more robust and lower costs. Inside VIRTUALL almost everything is virtualized: applications, servers, desktops.

Every customer is different. Using the PQR professional project approach, the best fit and mix of selected components from this showcase can be put in place for your environment. We have the experience to define, implement and manage the ICT infrastructure that suits all your needs. Many of the flagship products that are part of our core competencies: *Servers & Storage* and *Security & All IP* feature here.

VIRTUALL is a live and lively environment. So you can expect changes and enhancements over time. Therefore we cannot guarantee uninterrupted availability of the systems and services at all times.

## 1.1 Purpose of this document

This guide contains instructions how to use the solutions within the VIRTUALL environment. With these instructions customers can use functionality that accurately represent the solutions PQR is implementing and experience possible benefits for their organization.

Detailed product information of the solutions implemented within the VIRTUALL infrastructure can be found in chapter 5.

## 1.2 What does VIRTUALL mean

VIRTUALL is the solution showcase of PQR. Designed, build and maintained by our team of leading infrastructure consultants. This solution showcase is build to translate customer needs into business benefits with the solutions.

De name VIRTUALL is an aggregation of the word **Virtual** (VIRTUALLY) **to all** (Everybody):

- **Virtual**, the solutions available in this showcase environment are running within a Virtual environment. Server hardware and business applications are virtualized.
- **toAll**, the solutions are available to everyone, Anytime, Anywhere, Anyhow in a secure and controlled way.

VIRTUALL is operating at Global Switch, a dedicated datacenter in Amsterdam The Netherlands. The environment is powered by the following core components:

- HP Proliant Servers, Storage Area Network and Enterprise Backup Solution;
- VMware Virtual Infrastructure platform;
- Microsoft Solutions:
- Citrix Access Infrastructure;
- Softricity SoftGrid, application virtualization;

- RES PowerFuse, application management;
- Client Management, RES Wisdom, Landesk Client Management Suite and SMS 2003

### 1.3 **About PQR**

Our company was founded in 1990. During the first years just reselling computer- and network hardware. In 1997 engineering service and technical consultancy was added, with 100 employees in 2006 working for PQR from a single central office location in the center of The Netherlands, near Utrecht.

For a summary of our current products and services, please refer to chapter 6.

#### 1.3.1 **We Need Feedback**

We strive to provide accurate, clear, complete, and usable documentation. If you have any comments, corrections, or suggestions for improving the Gettings started Guide, we want to hear from you!

Please send e-mail to [support@VIRTUALL.nl](mailto:support@VIRTUALL.nl)

Include the product name and version number, and the title of the document in your message.


## 1.4 Solution Storyboards

VIRTUALL contains many working solutions, solving common Business & ICT challenges. For ease of use, most solutions can be started from the VIRTUALL homepage at <http://www.VIRTUALL.nl>

Throughout this manual Step-by-Step instructions bring you to the right starting point to access the chosen solution. In the next paragraphs we cover these starting points.

### 1.4.1 VIRTUALL Homepage

Start a browser and go to the URL <http://www.VIRTUALL.nl> and wait for the homepage to be displayed.



The screenshot shows the VIRTUALL homepage with a purple sidebar on the left containing the text 'PQR SOLUTION SHOWCASE VIRTUALL'. The main content area has a navigation bar with 'Server & Storage Solutions' and 'Security & All IP'. Below this is a welcome message and a list of core components: VMware Virtual Infrastructure Platform, Citrix Access Suite 4.0, RES PowerFuse v7, Softricity SoftGrid v3.2, Microsoft Windows Server 2003 R2, and Citrix Access Gateway, Enterprise Edition. There are sections for 'Access', 'Support', and 'Downloads'. The 'Access' section mentions signing in to [portal.virtuall.nl](http://portal.virtuall.nl) and [access.virtuall.nl](http://access.virtuall.nl). The 'Support' section provides contact information for the PQR Helpdesk. The 'Downloads' section includes a link to get started with VIRTUALL and read the overview document. On the right side, there is a 'Sign in to VIRTUALL' form with fields for User name and Password, and an 'OK' button. Below the sign-in form are sections for 'Partnerships' and 'Status'.

The Access section contains the appropriate entry points in VIRTUALL. Regular and registered users can directly sign in. This function is under development.

### 1.4.2 Citrix Web Interface Application Portal

On the VIRTUALL homepage, in the Access Section, select "portal.virtuall.nl". This will redirect you to <https://portal.VIRTUALL.nl/citrix/metaframe> and the Citrix Web Interface application portal is presented.



When a Citrix ICA Client isn't installed on the customer workstation a message in the Message Center will be displayed. This message states that an Citrix ICA web-client client can be installed to the machine. This client is about 2.8Mb in size.

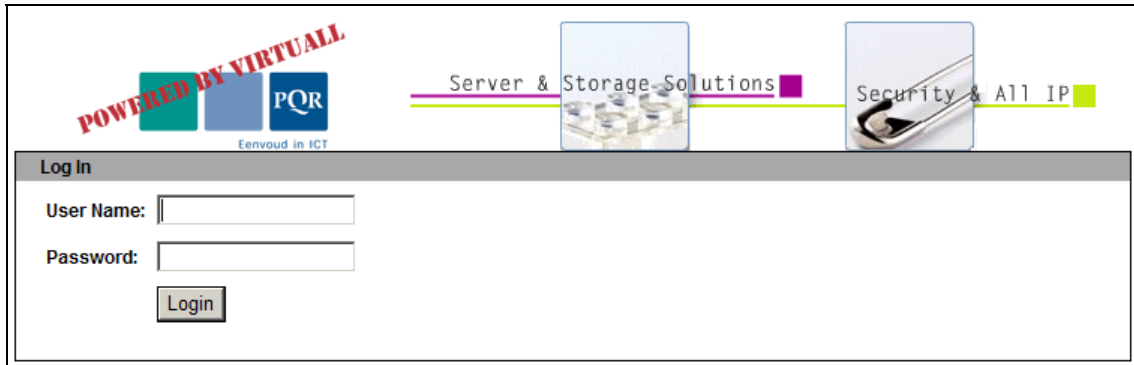
When no Microsoft Windows platform is being used, an ICA Client for that platform can be downloaded from the Citrix website <http://www.citrix.com/clients>. The Citrix ICA client for JAVA can't be used. This JAVA client functionality is disabled in our showcase environment.

So, an ICA Client must be installed to use the Citrix Presentation Server applications, and to be able to proceed.

- Type in the user credentials as requested and received from [helpdesk@pqr.nl](mailto:helpdesk@pqr.nl);
- After a successful logon, the relevant application folders are displayed.

### 1.4.3 Citrix Access Gateway Enterprise Portal

On the VIRTUALL homepage, in the Access Section, select "access.virtuall.nl". This will redirect you to <https://access.VIRTUALL.nl> and the Citrix Access Gateway Enterprise portal is presented.



- Type in the user credentials as requested and received from [helpdesk@pqr.nl](mailto:helpdesk@pqr.nl);
- After a successful logon, the relevant application folders are displayed, including websites and available fileshares.

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## 2 ACCESS TO APPLICATIONS

Deliver functionality to end-users, to make them more effective and productive, is one of the key reasons for having an ICT infrastructure. Deploying applications is one thing, bringing them to the users can impose many constraints.

Depending on your situation we see three prime solutions, individually implemented or in a carefully selected combination.

- **Citrix Presentation Server**, refer to chapter 2.1
- **Citrix Access Gateway, Advanced Edition**, refer to chapter 2.2
- **Softricity Softgrid**, refer to chapter 2.3

In the next chapters you will find detailed descriptions with: business & IT challenges, suggested solutions and Step-by-Step instructions for a live and working environment inside VIRTUALL at your disposal.

## 2.1 Citrix Presentation Server

### 2.1.1 Business and IT challenges

- **Rapidly Deploy Applications;** You can deploy applications, including mission-critical ERP, CRM, SFA, and office automation solutions far more quickly using Presentation Server, than the traditional approach installing them locally on each or selective desktop. Most enterprise applications will also perform better on central hardware and behave more predictable and stable. You save on local resources while significantly reducing deployment costs. Users get the latest versions right away, so they can work more productively.
- **Consolidate and Centralize IT;** Citrix Presentation Server makes it easier to achieve consolidation and centralization of IT resources for greater efficiency and cost savings. Presentation Server delivers a highly scalable, centrally managed solution that allows for a large number of applications and users on each server reducing IT costs and increasing IT productivity.
- **Strengthen Security and Compliance;** Presentation Server secures IT systems and aids in regulatory compliance with a multi-pronged approach. Applications and data are kept on the server instead of the desktop to minimize risk of exposure from theft or loss. Centralized control of application deployment insures consistency across the organization and prevents installation of unwanted programs. Presentation Server supports multi-factor authentication to validate user credentials, and protects data traversing the network between client and server with 128-bit encryption.
- **Improve the User experience;** Keeping your users satisfied and productive is a breeze with Presentation Server. Everyone enjoys flexible application access from any location or device, rich functionality, and high performance over Web and wireless networks, thanks to Presentation Server's reduced bandwidth consumption. Users can roam between devices and locations, staying connected to their sessions without interruption — even across wireless dead zones. Printing, file browsing, and in fact the entire desktop and peripheral devices are seamlessly integrated for a natural user experience
- **Consistent user Access Experience;** IT Managers want to enable efficient access for users who roam from device to device on wireless networks, Partners and employees are demanding access from devices outside the control of the IT Manager.
- **Extending access to business-critical applications;** Dispersed users, regardless of connection, location or device will be able to run applications at any location either inside or outside corporate networks.

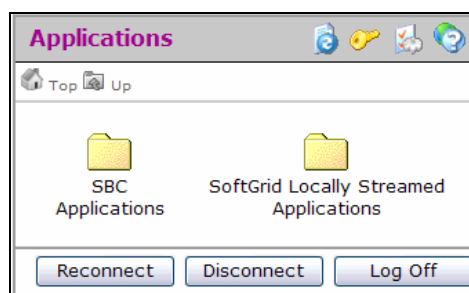
## 2.1.2 Solutions for business and IT challenges

- **Citrix Access Gateway Standard Edition;** Citrix Access Gateway is a universal SSL VPN appliance that combines the best features of IPsec and typical SSL-VPNs, without the costly and difficult implementation and management, to make access easy for users, secure for the company and low-cost for the IT department. Citrix Access Gateway can also integrate with Citrix Webinterface to provide secure access to Presentation Server applications without installing client software on the end-user device.
- **Citrix Presentation Server;** Citrix Presentation Server is the way to manage enterprise applications from a central location and access them secure from anywhere, any device, over any connection. Applications are deployed managed, supported and executed 100% on the Presentation Server. With Citrix Presentation Server the customer can centrally manage applications and provide secure, on-demand access.
- **Citrix Web Interface;** The Web Interface provides users with access to MetaFrame Presentation Server applications and content through a standard Web browser. The Web Interface employs Java and .NET technology executed on a Web server to dynamically create an HTML depiction of server farms for Presentation Server sites. Users are presented with all the applications published in the server farm(s) you make available.
- **RES PowerFuse;** PowerFuse is the complete application and desktop management solution for Windows, enabling administrators to configure, secure, streamline and monitor desktops, laptops and Presentation Servers from one central console. No tools, just one solution with everything needed to manage the Windows enterprise.

## 2.1.3 Step-by-Step Guide

### 2.1.3.1 Access to Presentation Server applications

- Go to the VIRTUALL homepage (as described in 1.4.1)
- Select access to the VIRTUALL portal (as described in (1.4.2))
- After a successful logon, the following folders are presented.

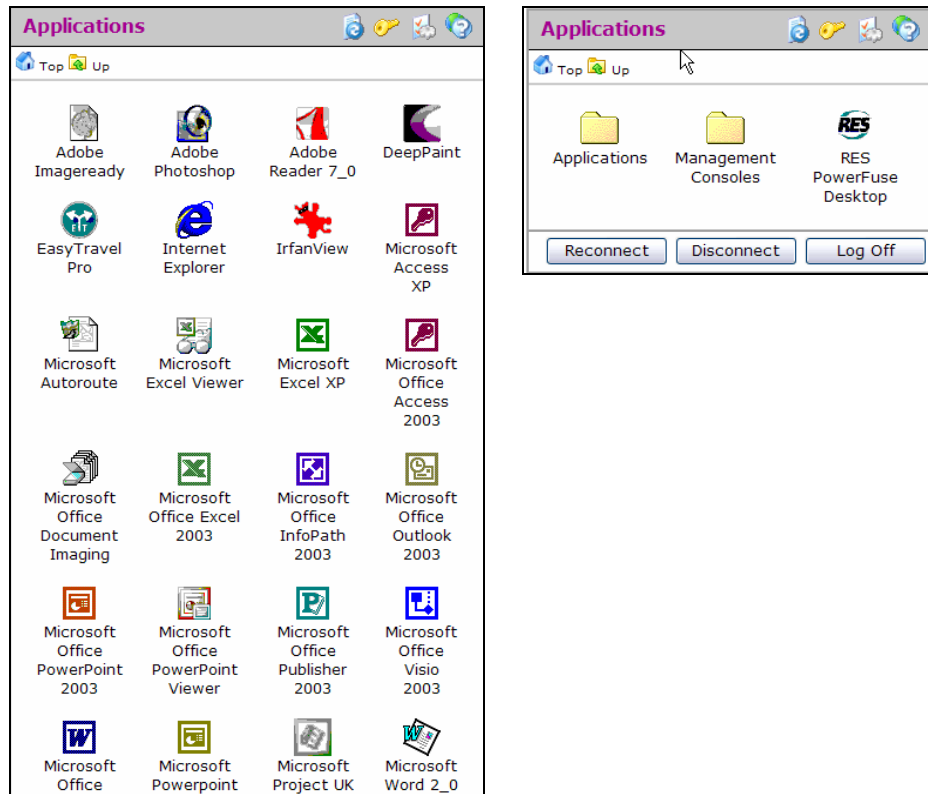


### 2.1.3.2 SBC Applications folder

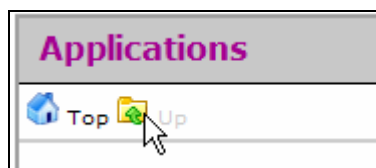
This folder contains the following applications or application groups.

**Seamless Published applications** – These Applications are seamless presented at the user. At first sight it seems that these applications run locally on the end-user workstation, in real world they are centrally processed on the Citrix Presentation Server and presented in an very efficient and secure way to the customer.

**RES PowerFuse Desktop** – This application, even when called 'desktop', will display an desktop interface for an end-user. This Desktop interface is very secure, corporate branded, uniform and all functionality within this desktop is centrally managed.

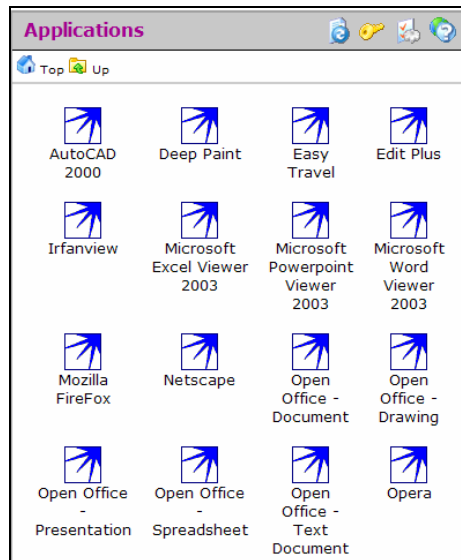


With the "Up button" *SBC applications* and *Softricity Locally Streamed Applications* are presented.



Select the Folder "Softricity Locally Streamed Applications". Under normal production use, the standard application logo'S would be shown, but to make the user aware of the streaming of applications, the Softricity logo is presented which each application.

### 2.1.3.3 Softricity Locally Streamed Applications:

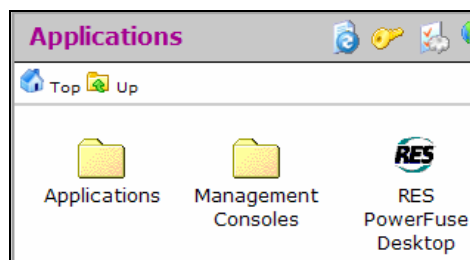


When a user clicks on an application this application will be streamed directly to the client workstation. When there is enough data transmitted the application will start. A Softricity SoftGrid client must be installed on the workstation.

SoftGrid data is stored on the client workstation for future use. When the second the this application is being started data from cache will be used. In chapter XXX this type of application access is explained.

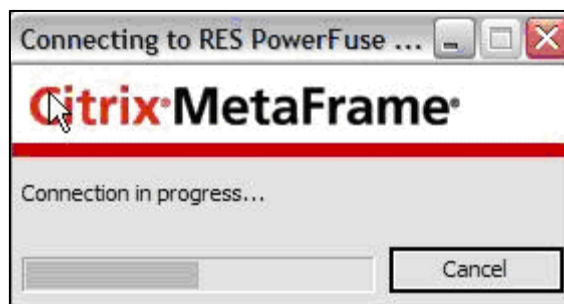
### 2.1.3.4 Published Desktop, powered by RES PowerFuse

1. From the Citrix Web Interface page start the application "RES PowerFuse Desktop". This application is presented in the SBC Applications folder.

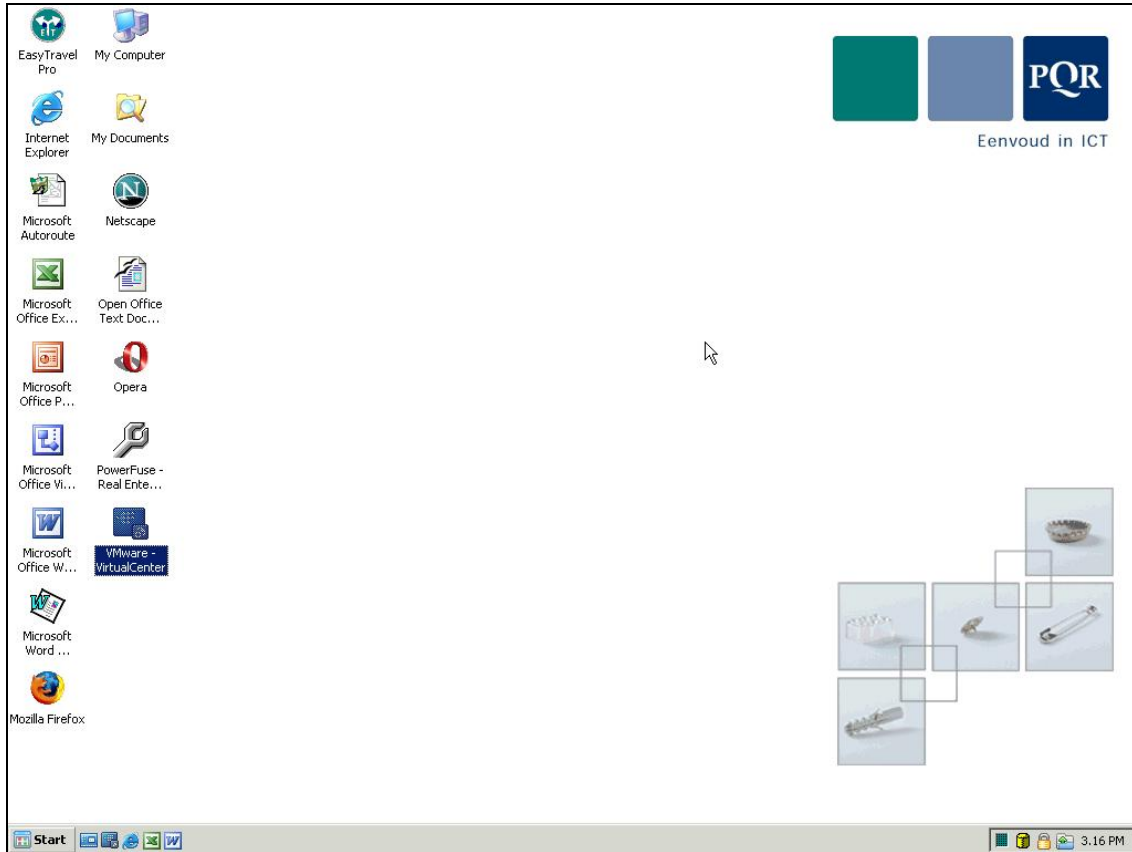


While starting the desktop a Presentation Server session is initiated, Terminal Server user profile is loaded and RES PowerFuse management Framework is started. The total logon time will take about 10 seconds, progress is being displayed:

- Connection in progress...
- Connection established. Negotiating capabilities...
- Loading your personal settings...
- Enumerating user groups...



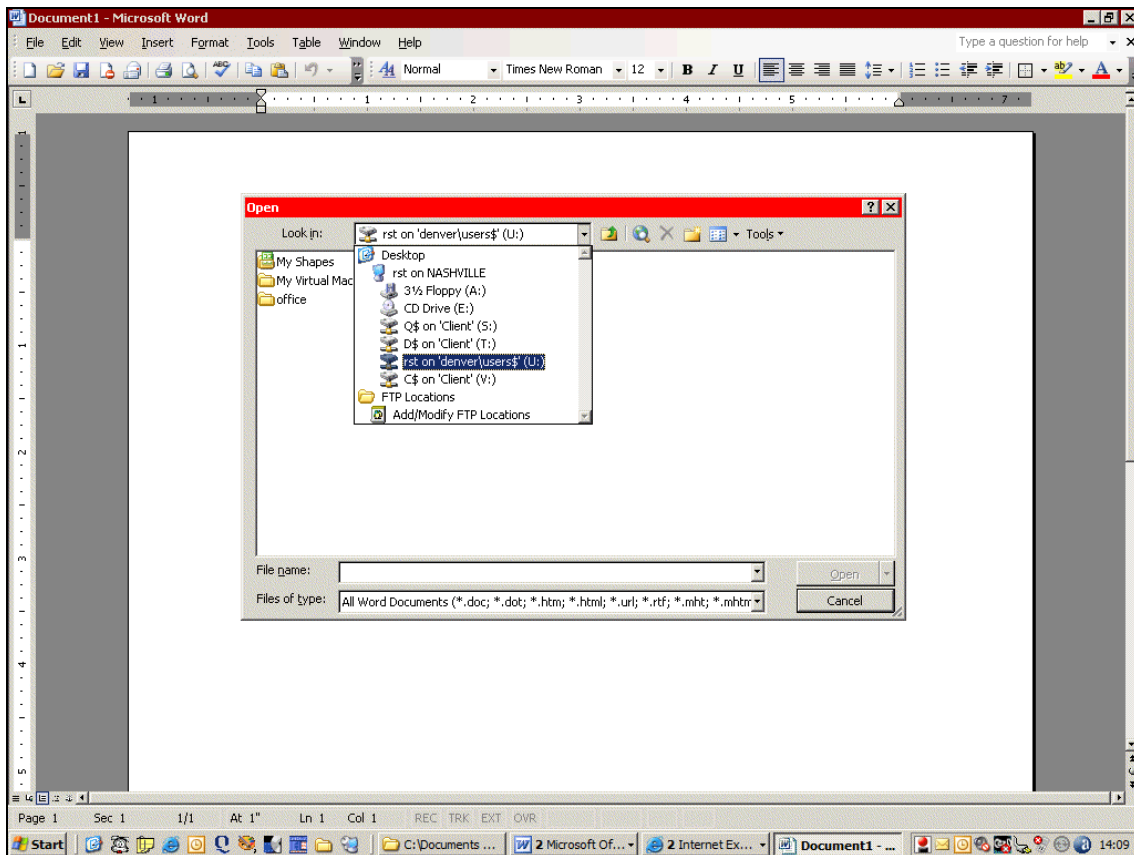
- When the logon process is finished the RES PowerFuse Desktop is displayed.



You can now work with this virtual desktop and use the applications. Please note that a single mouseclick activates an application immediately. When you want to finish the use of this desktop, just click Start... Exit...

#### 2.1.3.5 Seamless Published Application, Microsoft Office Word 2003

1. From the Citrix Web Interface page start the application "Microsoft Office Word 2003". This application is presented in the SBC Applications\Applications folder, as show in paragraph XXX.
2. While starting the application a Presentation Server session is initiated, Terminal Server user profile is loaded and RES PowerFuse management Framework is started. The total logon time will take about 10 seconds.
3. When the logon process is finished application Microsoft Office Word 2003 is displayed.



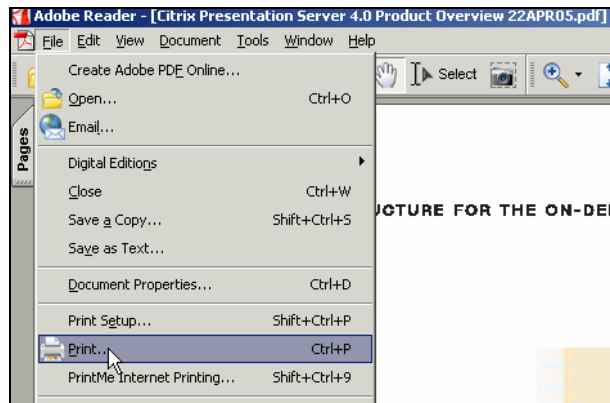
This application is seamlessly available, which means it fills your screen completely and behaves like a locally installed application. I.e. local files can be edited. Note that you can run local and virtual applications side-by-side!

### 2.1.3.6 Citrix Client Printing

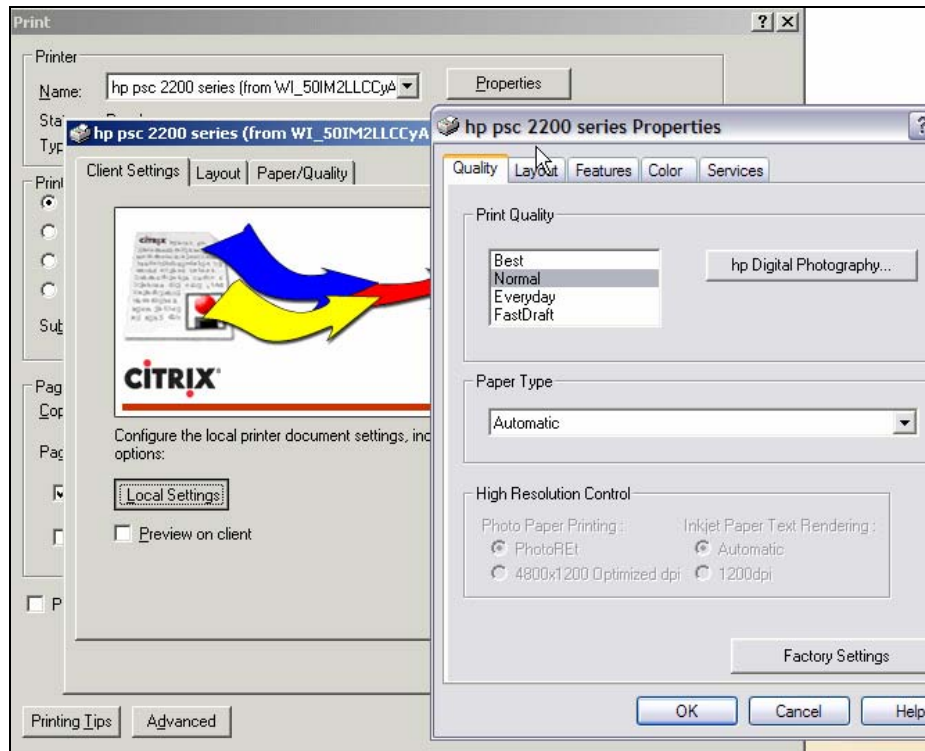
When the customer is logged on to Presentation Server applications, the server automatically creates client printers. With auto-creation of client printers, users print to their regular printers from applications that are running on the Presentation Server without having to set up their printers each time they log on. Auto-creation of client printers requires drivers for client printers to be available on servers running Presentation Server. Presentation Server Universal Printing is designed to relieve the burden of administering a multitude of printer drivers, avoid problems with driver maintenance, and other client printing issues in diverse environments. Because the server uploads printer properties, the universal printing feature depends on the client printer that is being used.

In the **My Documents** there are several documents available for printing.

1. Open a PDF from the My Documents folder. Select File Print.



2. Select Properties and Local Settings. The settings of the locally installed printer are displayed and will be used. There are no device drivers for the client printers installed.



### 2.1.3.7 User Experience

Network latency and bandwidth availability can impact the performance of connections to published applications and content. SpeedScreen technology improves connection speed and responsiveness which result in an optimal user experience.

The following features to take advantage of SpeedScreen enhancements:

**SpeedScreen Browser Acceleration.** Optimizes the responsiveness of graphics-rich HTML pages in published versions of Microsoft Outlook, Outlook Express, and Internet Explorer.

**SpeedScreen Multimedia Acceleration.** Allows you to control and optimize the way MetaFrame Presentation Server passes streaming audio and video to users.

**SpeedScreen Flash Acceleration.** Allows you to control and optimize the way MetaFrame Presentation Server passes Macromedia Flash animations to users.

**SpeedScreen Image Acceleration.** Offers you a trade-off between the quality of photographic image files as they appear on client devices and the amount of bandwidth the files consume on their way from the server to the client.

In the My Documents folder there are several audio files available for playback. With Speedscreen Multimedia Acceleration the Resource Utilization on the Presentation Server is minimal while the audio quality on the device is optimal. In this folder there are also several high-resolution graphical images available for a slideshow. This will demonstrate the Speedscreen Image Acceleration.

- <http://www.tiesto.com>
- <http://www.disney.com>
- <http://www.ferrariworld.com>
- <http://www.radio538.nl>

are great websites where Speedscreen Flash, Multimedia and Browser Acceleration are being used.

## 2.2 Citrix Access Gateway Advanced Edition

### 2.2.1 Solve business and IT challenges:

- **Anywhere access to any IT resource;** Provide access to any application or corporate IT resource, including legacy, web applications, client/server or IP telephony, without the need for custom configurations or development.
- **Security and Control;** Maintain the integrity of organizational data, ensure that devices granted access meet access guidelines and control user action rights based on the connecting environment.
- **Cost and complexity;** Reduce the cost and complexity of providing secure remote access—including implementation and support costs.
- **Mobile Access;** Give more users dynamic, mobile access to applications and information without compromising the integrity of the information or network.

### 2.2.2 Technology being used to solve business and IT challenges

- **Citrix Access Gateway Advanced Edition;** Citrix Access Gateway is a universal SSL VPN appliance that provides a secure, always-on, single point-of-access to all applications and protocols. It has all of the advantages of IPSec and SSL VPNs, without their costly and cumbersome implementation and management.
- With the **Advanced Access Control option**, Access Gateway finely controls both the resources users can access and what actions they can perform, facilitating regulatory compliance. Access Gateway delivers the best access experience for everyone: secure access to corporate data for the business, easy access for users, and easy administration and management for IT.

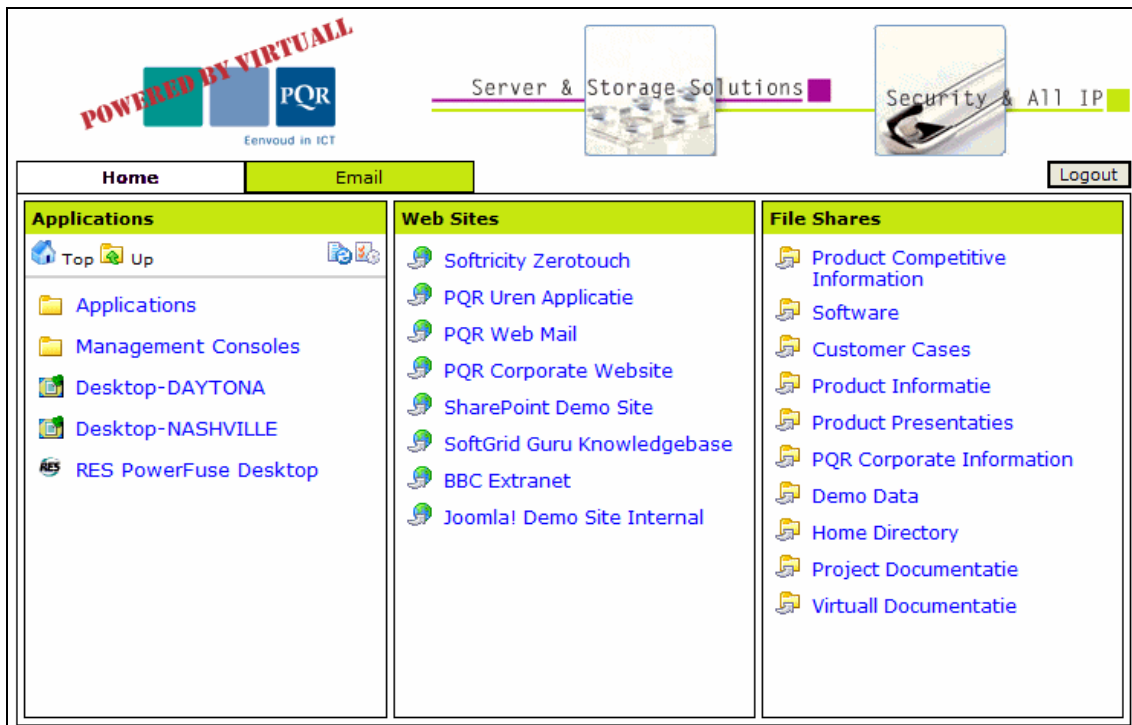
Advanced Access Control (AAC) provides your users with:

- **SmartAccess;** SmartAccess analyzes the access scenario and then delivers the
- **appropriate level of access** without compromising security.
- **SmoothRoaming;** Advanced Access Control supports SmoothRoaming technology by ensuring that as users move between devices, networks, and locations, the appropriate level of access is automatically configured for each new access scenario.
- **Secure by Design;** Advanced Access Control provides users with access that is inherently secure by design, protecting both the security of company information as well as the integrity of the network.

## 2.2.3 Step-by-Step Guide

### 2.2.3.1 Access to Access Gateway Advanced Edition

- Go to the VIRTUALL homepage (as described in 1.4.1)
- Select access to the VIRTUALL portal (as described in (1.4.3))
- After a successful logon, the following folders are presented.



### 2.2.3.2 Applications Resources

Presentation Server applications are integrated seamlessly with Advanced Access Control (AAC). SmartAccess capabilities are available when accessing published Presentation Server applications.

### 2.2.3.3 Web Sites Resources

Web resources are Web sites and Web applications that can be internal or external to an organization.

### 2.2.3.4 File Share Resources

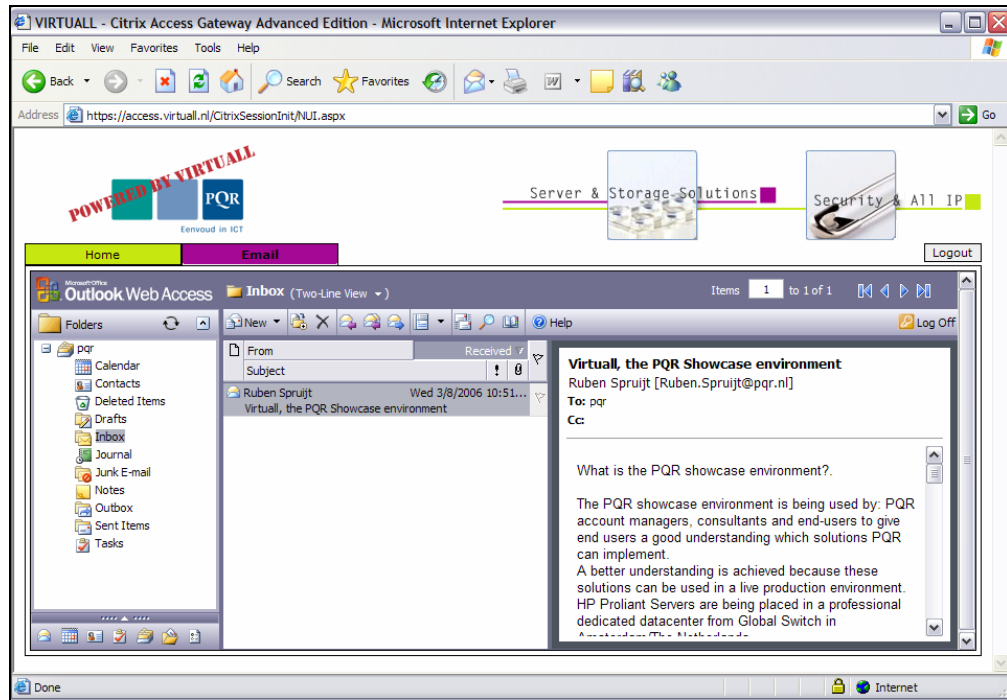
Give access to file shares which are shared directories, folders and files on the network.

### 2.2.3.5 Network Resources

Give access to network resources.

### 2.2.3.6 Email Resources

AAC natively supports MS Exchange server and Lotus iNotes Web Access.



## 2.3 Softricity SoftGrid

### 2.3.1 Solve business and IT challenges

- **Accelerate Application Availability;** Transform the way new applications and updates are deployed – making everything much simpler and faster.
- **End Application Conflicts and Regression Testing;** Prevent applications from conflicting with each other or the underlying OS, and eliminate time-consuming regression testing.
- **Simplify OS Migrations and Patching;** Turn time-consuming, tedious migration and patching projects into largely automated, conflict-free processes.
- **Secure Your Applications;** Reduce the likelihood and severity of malware infections and security breaches, and lock down application access and license compliance.
- **Stabilize Windows Profiles;** Separate application preferences from the Windows user profile, preventing profile corruption and proliferation.
- **Build Business Continuity for Applications;** Replicate your virtualized applications like any other enterprise data to maintain an instant-on failover plan for your applications.
- **Enable Roaming and Free Seating;** Free your workforce to work wherever, whenever they want, while having instant and consistent access to all of their applications.
- **Consolidate and Standardize OS Images;** Streamline OS image management by decoupling applications from the OS.
- **Manage Software Assets;** Manage application assets in real time over the network without a separate system.
- **Reduce the Costs of Application Management;** Cut the cost of deploying, updating, supporting and terminating applications by over 80%.

### 2.3.2 Technology being used to solve business and IT challenges

#### 2.3.2.1 Softricity SoftGrid

Softricity enables software to be as instantly available and as easy to use as electricity by transforming applications into network services that no longer need to be installed.

The Softricity Desktop provides a software environment that can be securely deployed, managed and immediately available anywhere in the world at a fraction of traditional IT investments while dramatically improving business agility and delivering a superior end-user experience.

#### 2.3.2.2 Softricity Zerotouch; IT Self-service

ZeroTouch enables simplified provisioning, access and reporting of applications virtualized by the Softricity SoftGrid application management platform.

Deploying enterprise-wide applications is one of IT's most time-consuming, costly and critical tasks, filled with endless testing and installations.

If business users do not get the applications they need when they need them, your company loses productivity. Yet allowing users free reign to download applications

is not a solution as new installations will inevitably lead to problems with production environments, increasing calls to the help desk.

Softricity ZeroTouch uniquely enables enterprise IT to overcome these challenges by eliminating the steps traditionally necessary for application deployments.

IT is no longer plagued by endless requests for new applications or updates and end users get access to applications on demand. By combining Softricity's SoftGrid application virtualization platform with intelligent self-service provisioning and comprehensive reporting, IT and business end users get exactly what they need.

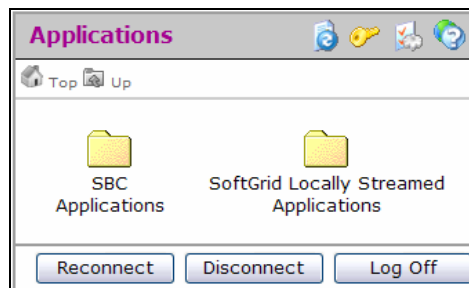
### 2.3.3 Step-by-Step Guide

#### 2.3.3.1 On-demand application delivery executed locally

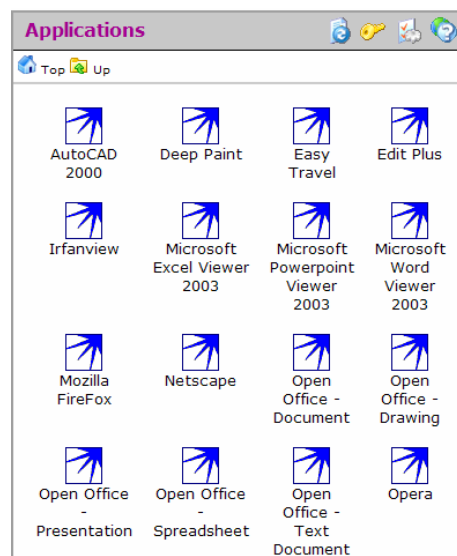
When the user starts Softricity applications from <https://portal.VIRTUALL.local> these applications are streamed directly to the workstation, executed and processed locally.

The Softricity Client for Windows Desktops must be installed on the workstation. Communication to and from the client is TCP-332 RTSPS.

- Go to the VIRTUALL homepage (as described in 1.4.1)
- Select access to the VIRTUALL portal (as described in (1.4.2))
- After a successful logon, the following folders are presented.



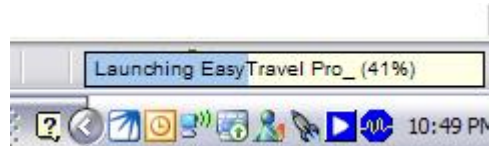
- Select the Folder "Softricity Locally Streamed Applications". Applications with the Softricity logo, are presented.



When a user clicks on an application this application will be streamed directly to the client workstation. When there is enough data transmitted the application will start. A Softricity SoftGrid client must be installed on the workstation.

SoftGrid data is stored on the client workstation for future use. When the second the this application is being started data from cache will be used.

- Click at one Softricity application, the application starts loading.

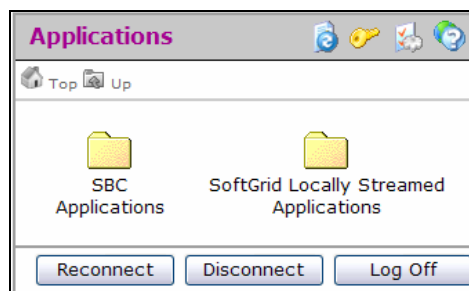


- When enough data is streamed the application will be executed en processed locally. Within Windows taskmanager this process is visible. There is no application, files or folder, data stored on the machine. Also there are no registry changes being made to get this application running.
- All User specific application settings, like customizing toolbar etc. are default stored in the userprofile.

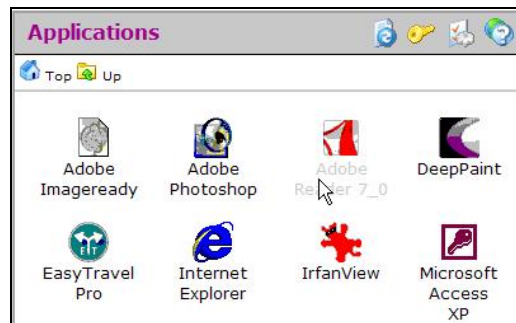
### 2.3.3.2 On-demand application delivery executed remote on Presentation Server

When the user starts SBC applications from <https://portal.VIRTUALL.local> these applications are streamed to the Citrix Presentation Server, executed and processed on the Presentation Server and presented by the Citrix ICA protocol to the customer workstation. Generally only display, keyboard and mouse information is communicated very secure and efficiently to the customer workstation. The Softricity client for Terminal Server is installed on the Presentation Server. Communication to and from the client is TCP-443 SSL over HTTPS.

- Go to the VIRTUALL homepage (as described in 1.4.1)
- Select access to the VIRTUALL portal (as described in (1.4.2))
- After a successful logon, the following folders are presented.

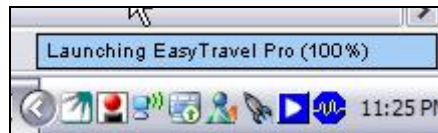


- Select "SBC Applications". From the Citrix Web Interface page start the application "Easy Travel ". This application is presented in the SBC Applications\Applications folder.



- While starting the application “Easy Travel” a Presentation Server session is initiated, Terminal Server user profile is loaded and RES PowerFuse management Framework is started.

The total logon time will take about 10 seconds.

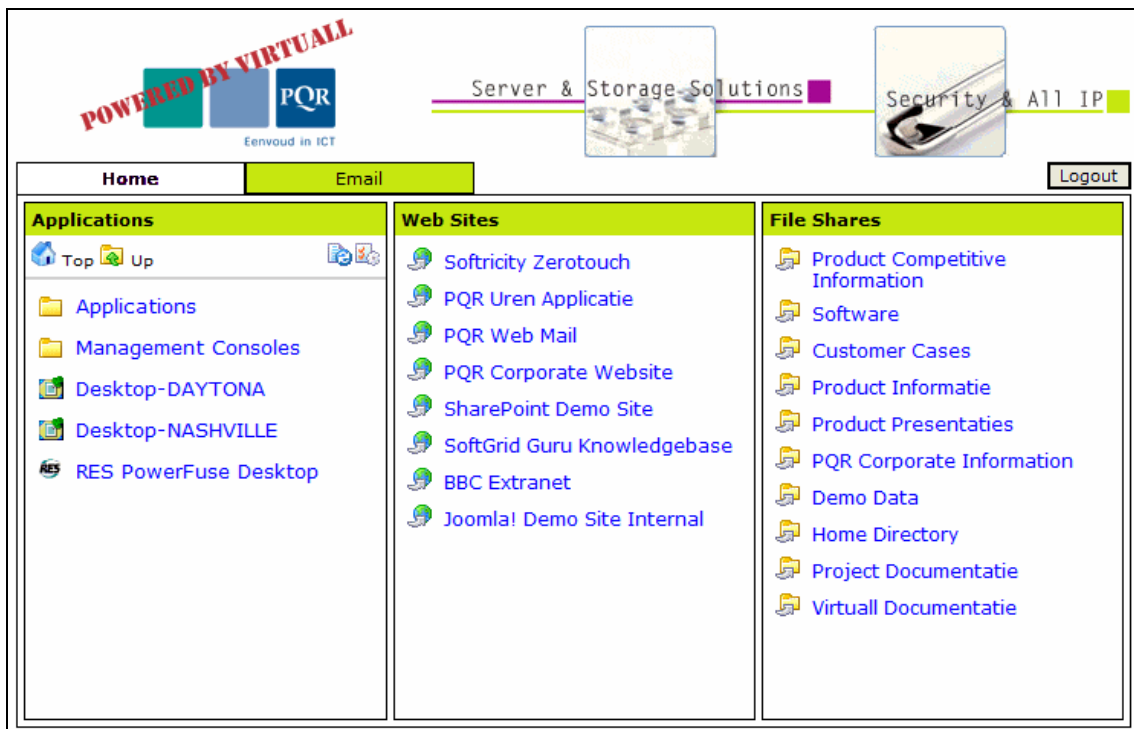


- When the logon process is finished the application “Easy Travel” is displayed.

It seems that this application runs locally on the customer workstation. This application streamed to the Terminal Server, executed and processed on the Terminal Server and presented seamlessly with Citrix Presentation Server technology.

### 2.3.3.3 Universal Application delivery

- Go to the VIRTUALL homepage (as described in 1.4.1)
- Select access to the VIRTUALL portal (as described in (1.4.3))
- After a successful logon, the following folders are presented.



- Select from Web Sites, Softricity Zerotouch.

## 3 ONDEMAND ASSISTANT

Citrix On-Demand Assistance is a remote-support capability that enables enterprises to instantly provide advanced technical support to their customers and employees anywhere around the world. On-Demand Assistance ensures that any individual, anywhere, who relies on IT for business-critical operations will have technical issues solved quickly, accurately and securely. This innovative capability saves time on each incident and over time. Support agents can visually demonstrate new procedures to employees and customers, thereby preventing repeat incidents.

On-Demand Assistance also assists users with questions or issues, empowering support agents to remotely perform the change for them. With speed and better first-call resolution, customers and employees improve their productivity, notably and satisfactorily.

### 3.1 Solve business and IT challenges:

- Avoid travel to customers to provide onsite support;
- Support non-technical end users efficiently;
- Support business-critical applications and environments easy;
- Reduce incident-handling time and avoid costly escalations;
- Accurately measure customer satisfaction;

### 3.2 Technology being used to solve business and IT challenges

- **Citrix GoToAssist**; Citrix GoToAssist revolutionizes the way support, consulting and IT professionals deliver technical help to their customers across the globe. With GoToAssist, organizations can provide a superior customer experience by offering fast, easy and secure remotesupport services.

*The features of GoToAssist are:*

- **Chatlink**; Representatives can engage in up to 8 simultaneous chat sessions with end users or other representatives to resolve calls quickly. Add pre-scripted messages or URLs to reduce response time for frequently asked questions;
- **2-way desktop view or control**; The representative can view or share control of the end user's desktop – or vice versa – even in multi-monitor desktop environments;
- **Remote Diagnostics**; Collect system information, including operating system details; total and available memory; applications and services currently running and more;
- **File Transfer**;
- **Reboot/Reconnect**;
- **Whiteboard**; Your representative and end user can draw, highlight or type on each other's screens to show exactly where the problem is or explain how to resolve the issue;

- **Session Recording;** Session recordings can be used for evaluation, training and archival purposes, enabling compliance with governmental and industry regulations
- **Customer and Representative Surveys;** Survey customers and representatives immediately following a session to gather actionable feedback and measure return on investment
- **Management Center;** Monitor, measure and evaluate team, subteam and individual representative metrics, chat session logs and real-time reports.

### 3.3 Step-by-Step Guide

#### 3.3.1 Overview

The end user goes to the VIRTUALL support page and types in a support request. The Web-support request is then queued for the next available PQR representative. With the end user's permission, the GoToAssist client is downloaded to the end user's device while the end user is in the Web queue. The representative then begins a remote-support session with the end user.

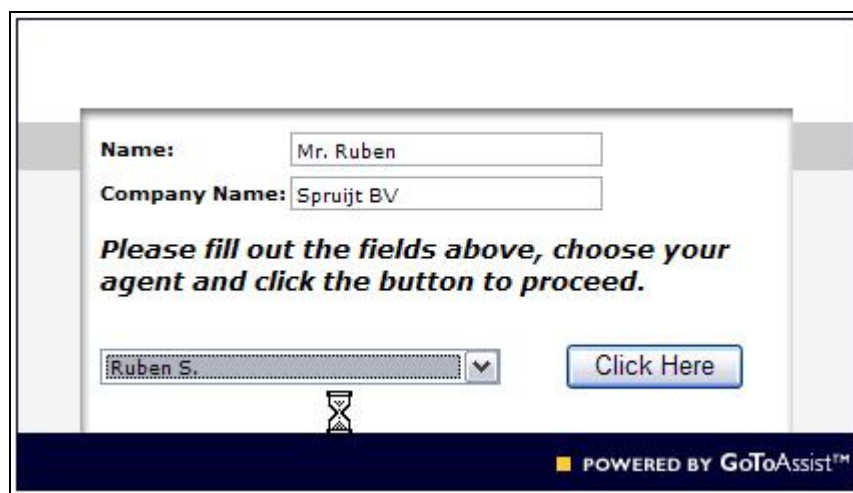
The representative can immediately diagnose, troubleshoot and resolve the incident using a variety of incident-resolution tools, including Chatlink, Remote diagnostics, File Transfer, Reboot/Reconnect, Remote viewing/Control, Whiteboard, Multichat,

At the end of the session, the end user immediately provides input on the support experience, enabling your organization to address session metrics and maintain a high standard of customer satisfaction and loyalty.

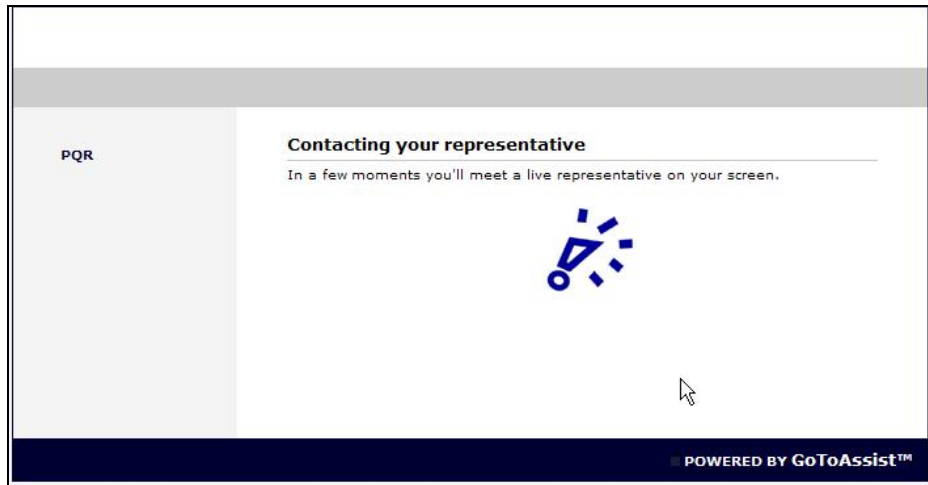
#### 3.3.2 End-user support request

1. Type the following URL: [www.VIRTUALL.nl/support](http://www.VIRTUALL.nl/support).

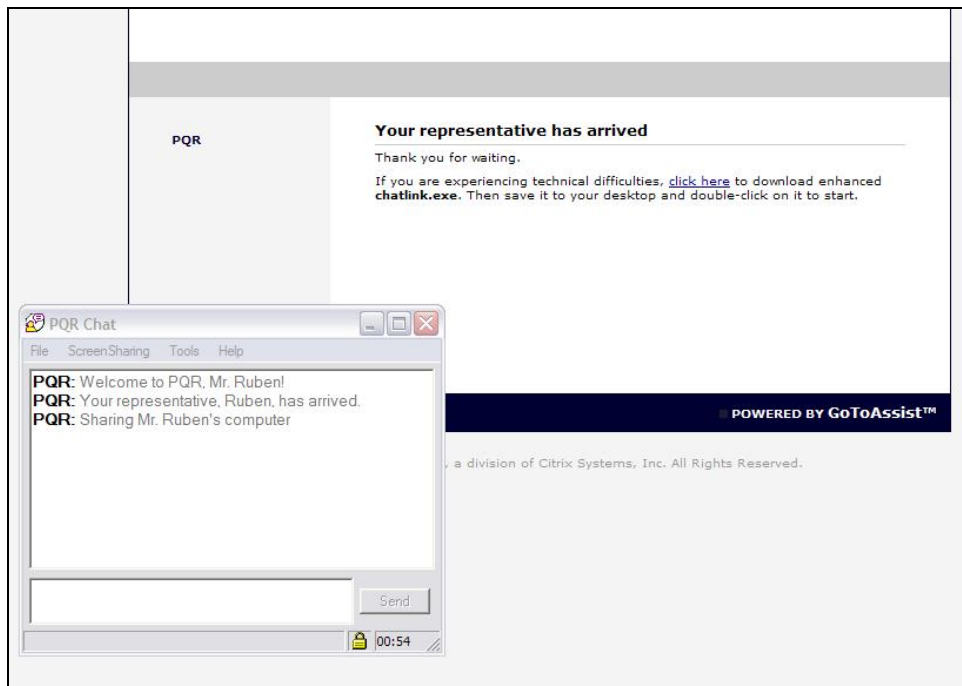
Fill in your Name and Company Name, select the Representative who is online.



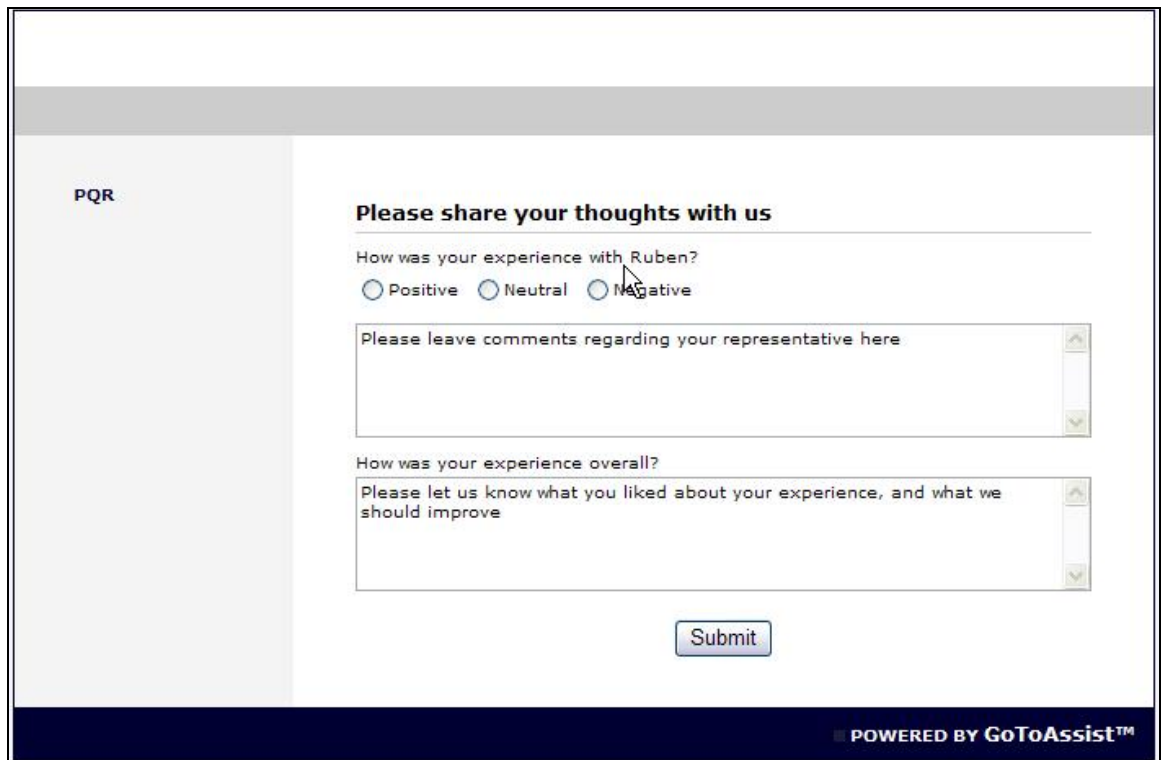
2. The representative is being contacted.



3. The Representative is arrived, Remote support has been started. The representative can use the GoToAssist features to solve your problem and finished your support request.



4. Close remote support, the end-user or representative can close the session. After the support session a brief survey is being held.

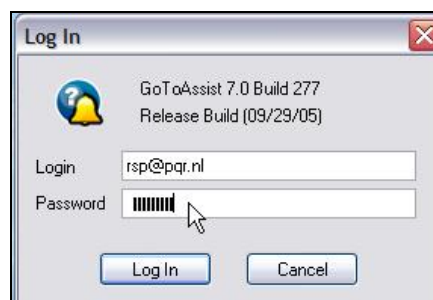


The screenshot shows a web form for providing feedback. On the left, there is a vertical grey bar with the text 'PQR'. The main content area has a title 'Please share your thoughts with us'. Below the title, there is a question: 'How was your experience with Ruben?'. There are three radio button options: 'Positive', 'Neutral', and 'Negative'. Below this is a text input field with the placeholder text 'Please leave comments regarding your representative here'. Another question follows: 'How was your experience overall?'. Below it is another text input field with the placeholder text 'Please let us know what you liked about your experience, and what we should improve'. At the bottom right of the form is a 'Submit' button. At the very bottom of the page, there is a dark blue banner with the text 'POWERED BY GoToAssist™'.

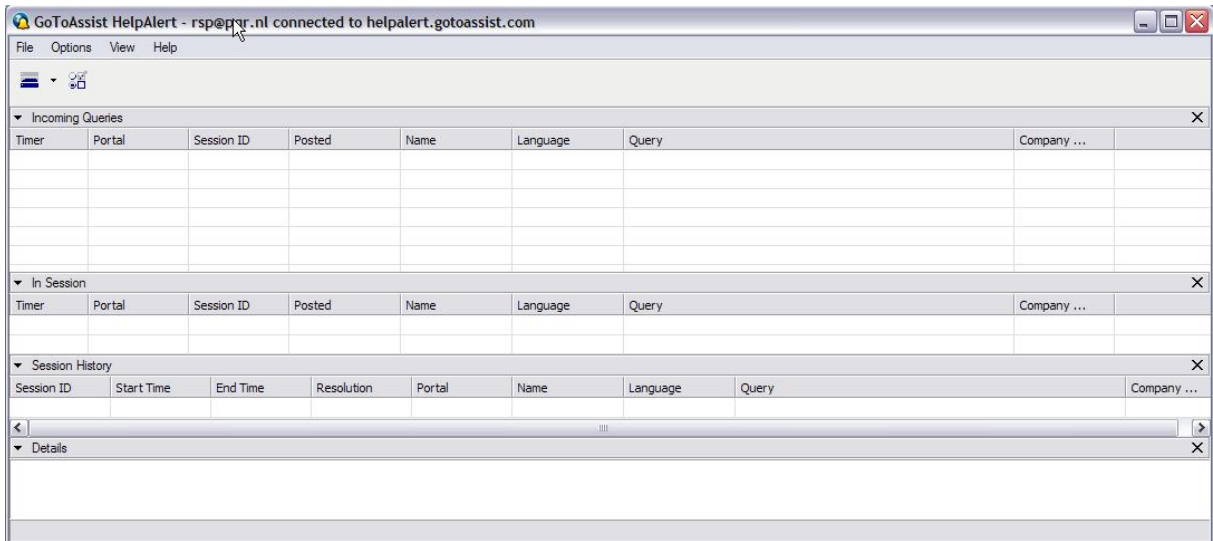
### 3.3.3 Representative perspective

HelpAlert is the software component of GoToAssist that allows representatives to receive screen-sharing session requests that come in from the customer portal. To obtain HelpAlert:

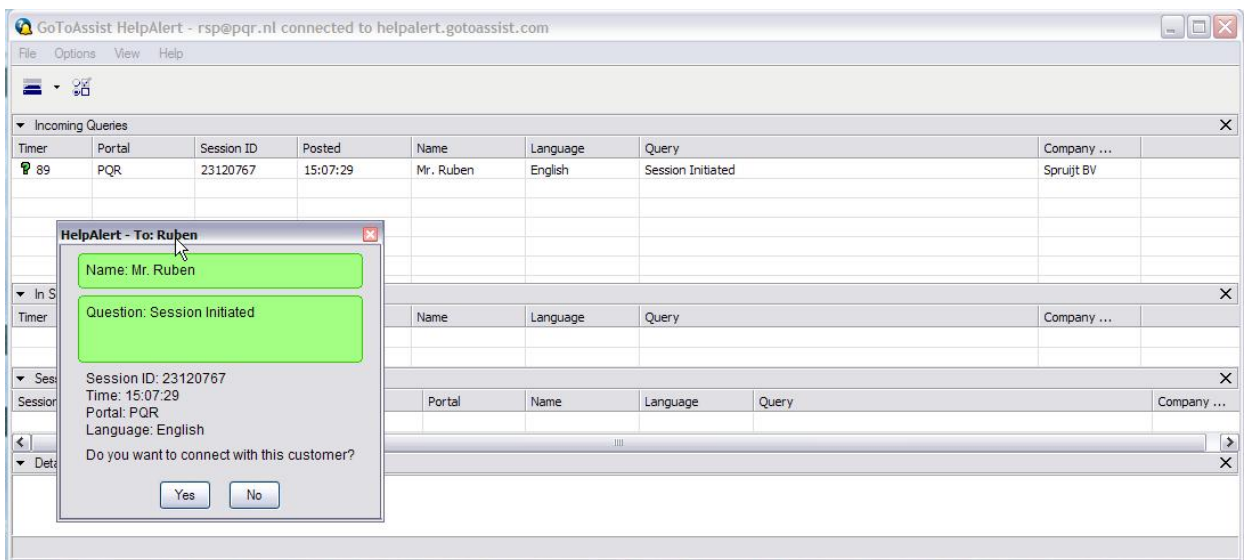
1. Use Citrix GoToAssist as the published Presentation Server application from the VIRTUALL application portal or visit the HelpAlert download site: <http://www.gotoassist.com/haupgrade>,
  2. The representatives log in to the site using one of the logins listed below
  3. The representatives download HelpAlert and save it to a convenient location
  4. They'll use these logins to log in to HelpAlert once it's downloaded to their computer.
2. Login: Use the supplied credentials to login to the HelpAlert application



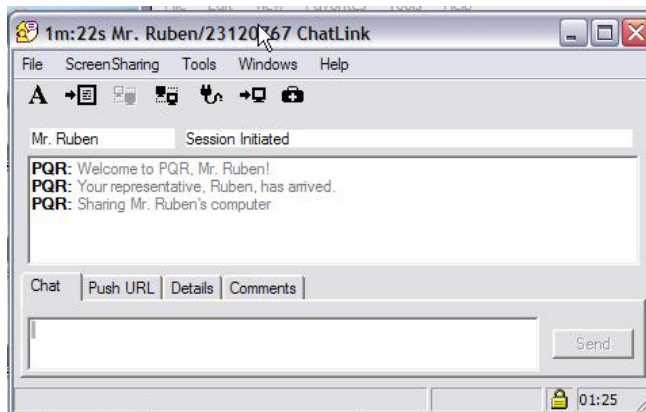
3. The application is ready for use: Remote support to end-users can be provided.



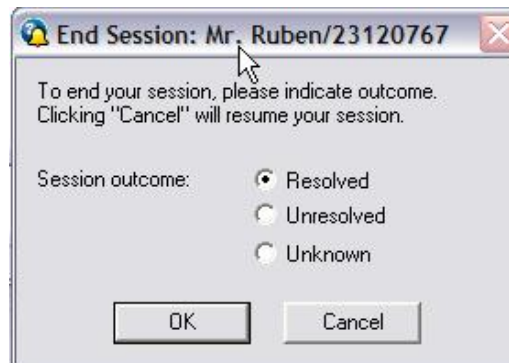
4. End-user is requesting support



5. Remote support is started.



6. Remote support is ended.



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## 4 FREQUENTLY ASKED QUESTIONS

### 4.1 Citix GoToAssist

#### *FAQ, for Representatives and Customers*

Q: What ports does GoToAssist use?

A: All GoToAssist software connections are outbound, requiring TCP connections to ports 80, 443 or 8200

Q: What are the minimum browser requirements to begin a screensharing session with my customer?

A: The minimum browser version required for the customer is Internet Explorer, Netscape Navigator 4.0 or later or Mozilla Firefox 1.0 or later. If the customer's browser is not Java-enabled, the customer will be prompted to manually download the screen-sharing file.

Q: What File Transfer Protocol is used in GoToAssist?

A: GoToAssist File Transfer does not use the traditional File Transfer Protocol (FTP), but instead relies on the same secure, firewall-friendly technology that powers screen sharing. Flow control ensures that File Transfer and screen sharing can take place simultaneously.

Q: Why does my customer get this message when he/she begins a screen-sharing session?

OS Not Supported.

A: The customer is using a non-supported operating system. Windows95/98/Me/NT/2000/XP are supported.

## 5 SOLUTIONS IMPLEMENTED WITHIN VIRTUALL

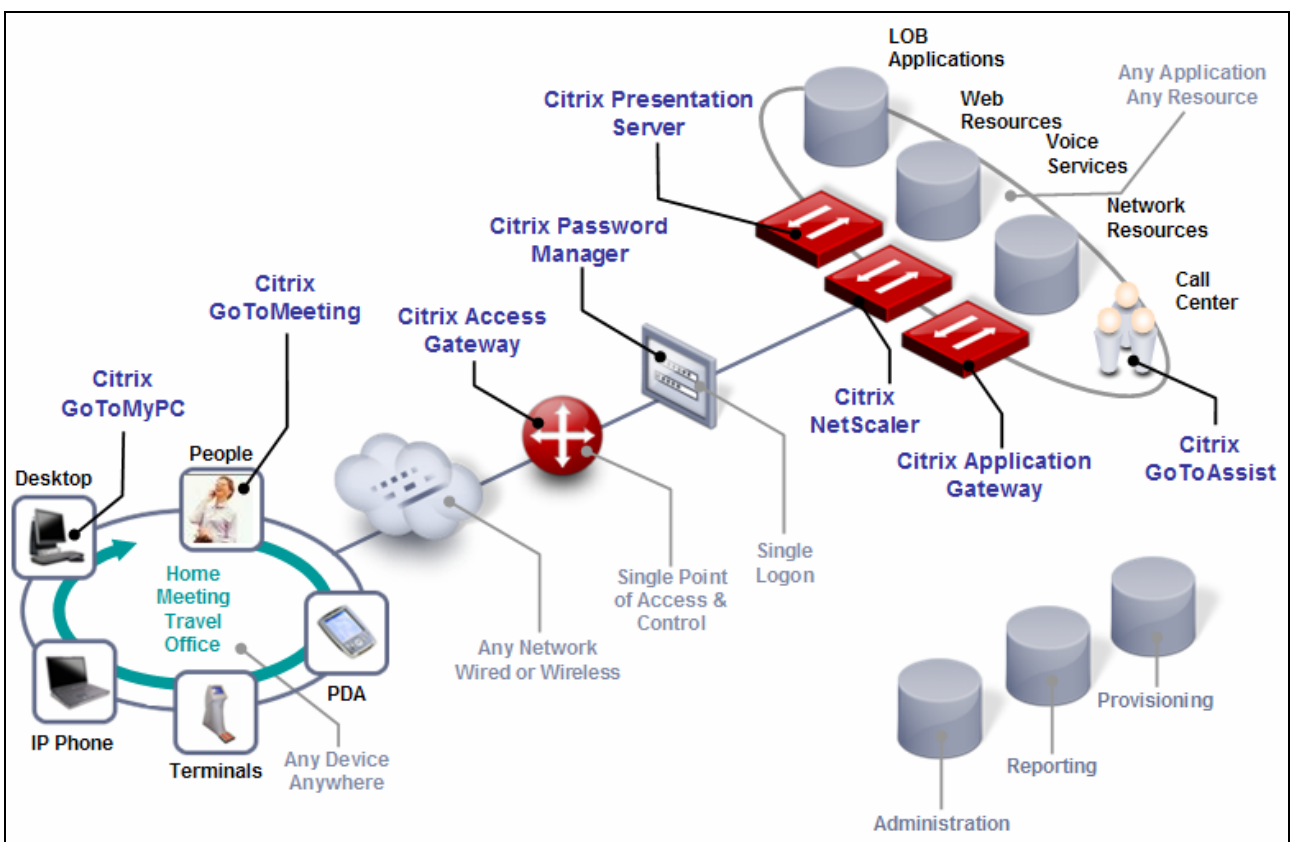
### 5.1 VMware Virtual Infrastructure

VMWare ESX and Virtual Center

### 5.2 Microsoft Back-end Solutions

Windows Server 2003

### 5.3 Citrix Access Infrastructure



### 5.4 Client Management

LANDESK, RES Wisdom, SMS 2003

### 5.5 Application availability and management

Softricity SoftGrid en RES PowerFuse

## 6 PQR PRODUCTS AND SERVICES

PQR has integrated its core activities into a number of solution areas:

- Server infrastructures
- Storage infrastructures
- Network solutions (All IP)
- ICT management solutions and Security
- Server Based Computing
- ERP infrastructures
- Project management

The use of leading suppliers' innovations geared towards existing configurations. This requires an understanding of performances and possibilities, and the know-how to realize optimum integration. PQR has ample experience of consultancy and the installation and implementation of enterprise ICT infrastructures. This experience is particularly apparent from the availability, flexibility, scalability and performance of the solutions that we design. Infrastructural solutions reflect your functional requirements and wishes, and also take account of future requirements and wishes.

### 6.1 Server infrastructures

PQR is authorized to supply all of the major A-brand product lines. Our experience of enterprise server environments and intensive exchange of knowledge with producers enable us to realize the configuration optimal for your requirements, and deliver it quickly and properly. Of course, the knowledge exchanged also extends to product development, enabling us to anticipate possible future developments. Allow our team of specialists to implement and install these configurations; they have an unparalleled knowledge of these environments, and often work closely with our consultancy branch.

When designing your server infrastructure, our standard point of departure is the result that it can ultimately produce. This result can be found in the application environment. The success of the infrastructure depends on the performance of the applications used. This is the reason for our close co-operation with application suppliers. We work closely with major providers of horizontal applications, such as Lotus and Microsoft, but also with many other important suppliers of ERP, CPM and specific vertical applications. PQR has a special service desk that enables clients to enter into service contracts with our systems' suppliers. The service desk is manned by specialists who put together a service offer reflecting your particular situation, depending on requirements in respect of continuity.

Leasing or renting is often a solution for those temporary situations when rapid capacity is required, or when long-term investments cannot yet be justified. PQR offers a wide range of possibilities, all of which are, again, geared towards your specific situation.

### 6.2 Storage infrastructures

PQR's strategy in respect of storage aims to achieve simpler, flexible and user-friendly solutions for cross-company automation.

PQR provides solutions that cater for the rapidly growing need within organizations for storage capacity for crucial data. The storage architecture provided by PQR is based on open, standardized solutions produced by various market leaders, including IBM, EMC, Sun and Hewlett-Packard. PQR provides distributed storage systems that are managed centrally and, at the same time, rapidly accessible right across the company, irrespective of the type of computer system or application used. This architecture means that crucial data is both readily available and usable. PQR also aims to provide standard solutions that are easily scalable in terms of performance and capacity, easy to manage, and help to reduce total operating costs.

In recent years, organizations have been making increasing use of distributed client-server systems, and less use of centralized computer systems with terminals. This has resulted in complex heterogeneous computer environments. In addition, greater demands are increasingly being made in respect of the management and security of crucial data. However, despite all the attempts made to consolidate or recentralize data, no real solution has yet been found to the complex management problems that accompany such attempts. Yet, PQR does provide for this solution, because it is able to connect up storage systems distributed across the entire organization. In this way, a single, 'virtual' storage system is created that can hold large quantities of data, originating from heterogeneous applications. The storage systems already in use can immediately be designated joint storage media. Depending on an organization's needs, this system may generate a storage capacity varying from gigabytes to terabytes. Data can be copied very quickly for system backups, tests, access via other applications, or for backups and restores for individual users. It also becomes possible to manage distributed and stored data centrally, in accordance with clear guidelines, including dynamic allocation, automatic restore, intelligent data replication and data protection. PQR provides a clear strategy for your data storage, and is able to make an inventory of possibilities for the central management of existing distributed storage systems, independent of the operating system used.

PQR supplies all of the products that you will require for your storage environment, such as the corresponding hardware and software components needed to manage and control the entire environment. As a result of its multi-vendor policy, PQR is able to combine the best of various worlds to achieve the very best solution for its clients.

### **6.3 Network solutions**

PQR specializes in the design and implementation of network solutions and infrastructures. As such, we opt for a 'best-of-breed' approach in which we co-operate closely with reputable partners. The emphasis is not restricted to the speed of networks, but, above all, on aspects such as scalability, stability, management, security and 'cost of ownership'. All of our solutions are preceded by an in-depth study of your specific situation by our network specialists, and, as such, we are always able to provide you with a custom-made solution. Within the 'end to end' approach taken by PQR, we are able to supply you with all of the products and services that you require for your network.

### **6.4 ICT management solutions**

In addition to the design, implementation and security of innovative server, network and storage infrastructures, PQR also provides solutions for the management and monitoring of the infrastructures mentioned above. PQR advises, supplies and

implements software solutions in the field of ICT management and monitoring. All this in the network, system, database, application and desktop management segments.

Numerous specific products are available in these segments. For example, scheduling, security level management, storage and network management, but also end-to-end performance measurement and optimization. We supply ICT management software for all of these and similar applications; the most important motives for which are price/performance ratio, integration possibilities and, above all, quality.

We advise clients about the final design of an integrated management environment, where it finally becomes possible to compare the performance of the total management organization with the Service Level determined. This enables PQR to help clients to make a logical link between the quality required, as set out in the so-called Service Level Agreements, and the quality of service provided at any given time.

## 6.5 Server Based Computing

Use ICT resources as effectively as possible for the whole organization, with maximum management opportunities and constant access to the latest information. These are the criteria that apply for the use of Server Based Computing. The latest technologies in this field, and the effective organization of the ICT infrastructure, make it possible to realize the optimum use of resources. PQR offers a large number of services and products in line with the Server Based Computing concept. The service we provide includes the provision of applicability tests and pilot design. PQR's SBC Consultants deliver a broad range of services:

- workshops on application availability
- brainstorming sessions on Server Based Computing features and benefits
- and conceptual, functional and technical designs, etc.

For each client's specific (branch-related) situation, a balance is achieved between functionality for users, availability of applications and the manageability of the SBC environment.

## 6.6 ERP infrastructures

The implementation of an ERP package always has a great impact on an organization. Almost all of its business processes must be carefully examined and modified if necessary. This certainly does not make successful implementation easy to achieve. PQR supports you during the technical implementation, leaving you free to give your time and attention to business processes.

## 6.7 Project management

Large-scale projects that have a major impact on your organization require good management. PQR's project managers complete complex projects on time and on budget. The added value of PQR's project management is reflected in the experience possessed by its various project managers, and the Prince 2-based and PMW-based methods used. Projects are divided up into a number of phases; steps and tasks are described clearly for each phase, and, of course, are also accompanied by a time schedule.

The final phase is the acceptance phase, in which predetermined criteria are assessed against the situation realized, and agreements are made about product support. The various ITIL components establish a good basis for the period immediately following project completion.

**[End of Document]**