

# 800xA Smart Client Frequently Asked Questions

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# General information and licensing requirements

## What is 800xA Smart Client?

800xA Smart Client is a dashboard visualization application that provides a read-only view into System 800xA. 800xA Smart Client assists all levels of personnel in analyzing real-time and historical data and allows the user to call up 800xA PG2 graphics. (See brochure for more information.)

## What kind of customer is best suited to use 800xA Smart Client?

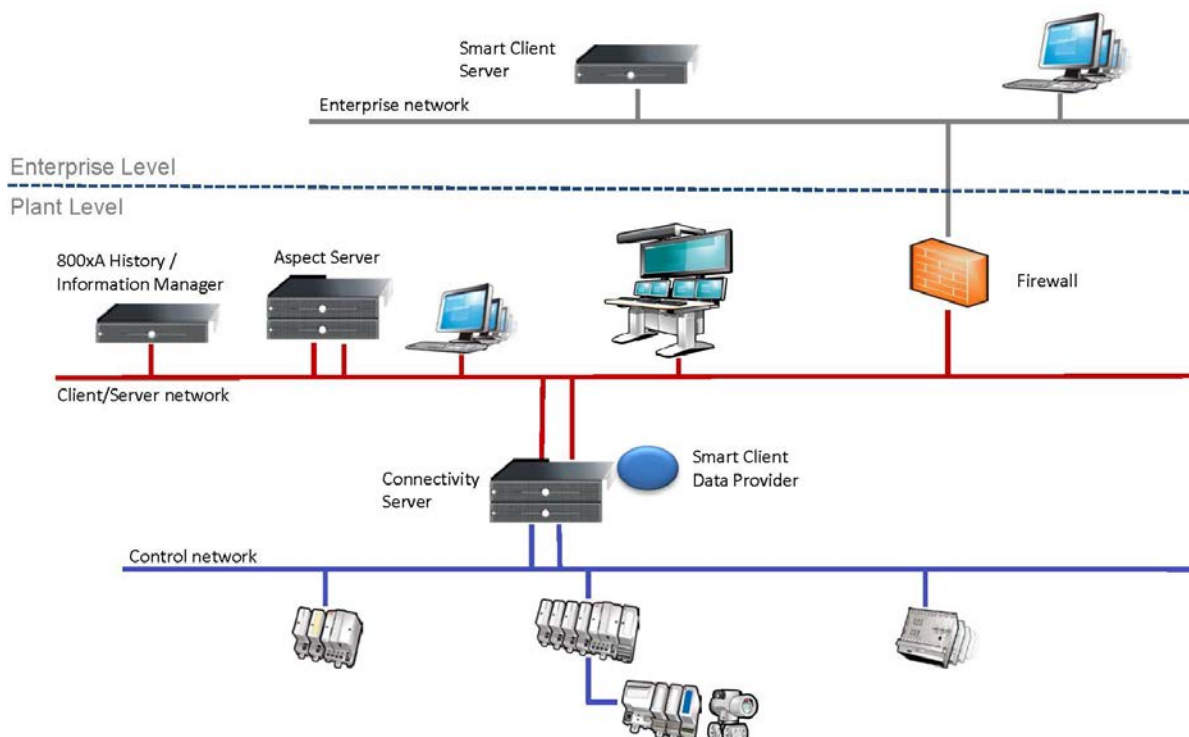
Customers that want to work smarter, not harder.

Customers who would like to:

- Aggregate data and distill information for management
- Make 800xA data available outside of the plant network in a secure and easy way
- Instantly view plant metrics and KPIs (Key Performance Indicators) outside the control room
- Analyze historical data/events from their desktops/laptop

## What is the 800xA Smart Client architecture?

The recommended system architecture includes a dedicated computer as the 800xA Smart Client server. It is on this machine that the Smart Client server application is installed. The Smart Client server is then connected, using a secured firewall, to the 800xA network where 800xA servers and workstations reside. A “data provider” is installed on one of the 800xA connectivity or application server nodes and supplies data from the 800xA system to the Smart Client server. A second network connection, to the Smart Client server machine, links this computer to the enterprise network. It is through this path that the server provides data to the Smart Client desktop and Excel interface applications on the customer’s office computers.



## What components make up 800xA Smart Client?

### Smart Client workplace:

The Smart Client workplace provides desktop visualization and access of System 800xA data, trends, events, and operator displays.

### Smart Client data provider:

The Smart Client data provider is a small application that is installed onto an 800xA node, typically one of the application or connectivity server nodes. It provides a link between the 800xA system and the Smart Client server application. Only one data provider is required per system.

### Smart Client server:

The Smart Client server reads data out of the 800xA system and sends it to the Smart Client desktop and Excel interface. The Smart Client server is typically installed on a dedicated PC on the plant information network (above the control network) separate from the 800xA system computers/network. The Smart Client server application links with the Smart Client data provider application through a network firewall device to ensure system security and integrity.

## What applications come with 800xA Smart Client?

### Smart Client desktop:

The Smart Client desktop application gives 800xA users the ability to build and view dashboard displays, trends and SPC charts, as well as browse and call up 800xA PG2 graphics.

### Smart Client Excel interface:

The Excel interface is an “add-on” to Microsoft Excel that allows users to gather live and historical data and populates it in an Excel spreadsheet.

### Smart Client alarm and event analysis:

This feature includes data analysis tools for event data stored in the 800xA History or the 800xA Information Manager node.

## Can 800xA Smart Client be used with 3<sup>rd</sup> party historians?

No, 800xA Smart Client cannot be used with other historians at this time. It is a dedicated desktop visualization tool for 800xA Systems.

## Should users with a 3<sup>rd</sup> party historian client still consider using Smart Client for 800xA?

Yes. If users already have a 3<sup>rd</sup> party historian and it has desktop historian data access, Smart Client for 800xA may still be extremely beneficial for certain personnel who need more direct, real time access to the 800xA system. Smart Client can access data not available using a 3<sup>rd</sup> party historian dashboard, including 800xA graphics and pre-configured trends.

## How is 800xA Smart Client licensed?

800xA Smart Client is licensed to a specific 800xA system by the number of concurrent users of Smart Client. The Smart Client server, System 800xA data provider, and applications are included with the license. Example: If there are 20 people that require access to Smart Client for one 800xA system, but it is estimated that only five will be logged into the Smart Client server at a given time, then licenses for five concurrent users are needed for that 800xA system.

## What version does the System 800xA need to be at?

800xA 5.1 Rev A and above. (In order to browse and call up 800xA PG2 graphics).

**Note:** Smart Client can be used without 800xA PG2 graphic support on systems that are at 4.1 Rev M, 5.0 SP2 rev D, E and 5.1 base.

## What does the desktop PC need to have preloaded?

Microsoft .Net Framework version 3.5 SP1 (available on the Smart Client media), Microsoft Internet Explorer 7.0 or higher and MS Excel 2007 or 2010 on client nodes if intending to use the Excel interface add-in.

## Is Smart Client a thin client?

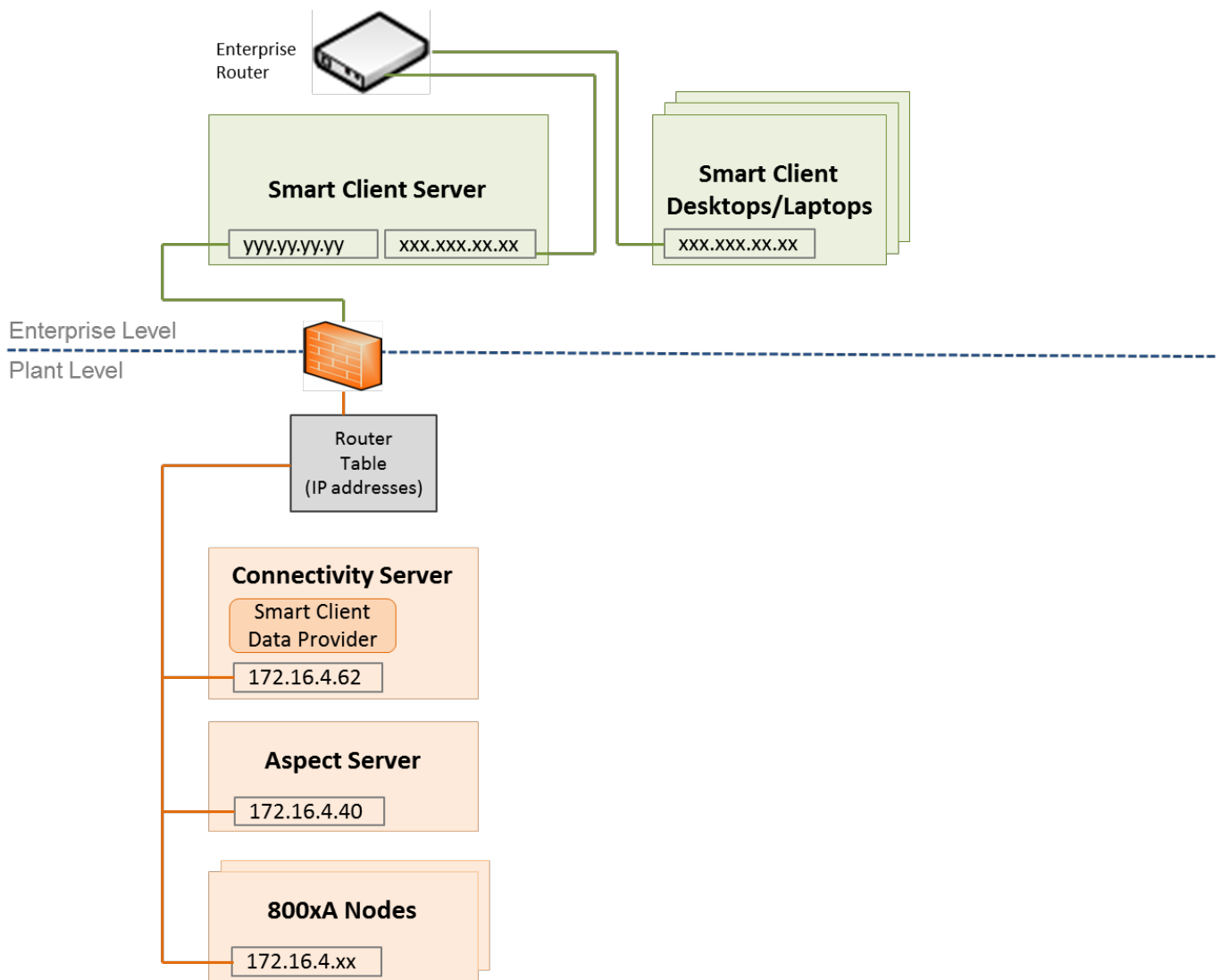
Yes. While it is not a browser based application, Smart Client downloads or updates the entire application over an intranet HTTP connection every time it launches. 800xA Smart Client **does not** require installation on the individual user's desktop. The exception is, if used, the Excel interface add-in. It must be installed on each user's computer that will use Excel to retrieve data from 800xA.

# Security

## How is security handled?

800xA Smart Client is protected against security threats, providing a safe look at real time data in 800xA.

**Networks:** It is recommended that the Smart Client Server software be installed on a stand-alone machine and connected to the 800xA network through a firewall. The Smart Client server is connected to the data provider (residing on an 800xA node) using two ports (80, 19131). The connectivity between the server and the data provider is recommended to be at a MAC to MAC communications level with only these two ports opened. The Smart Client server uses a second network connection through a second network card to link the server to the enterprise network in order to serve data to the user's desktop/laptop computers. Therefore, two different IP address/sub-net mask and gateway structures tie into the customer's "plant/business" network, mitigating risk of cyber threats.



**User authentication:** User authentication can be done via active directory, by using the built-in user authentication of Smart Client, or a combination of both. User access rights are assigned based on the user login credentials, meaning that some users are able to view certain displays, while others cannot.

### Can users access 800xA Smart Client from their home?

Yes. If the user has remote access to the enterprise network, which is normally done through a secured connection such as VPN, users can access the Smart Client server and thus the Smart Client desktop and / or the Smart Client Excel interface software installed on a laptop or home computer.

# Applications

## User defined displays

### Can users of Smart Client build their own displays?

Yes. Creating user-defined displays in 800xA Smart Client is easy and done by browsing, dragging and dropping. Users do not need to know 800xA or have programming skills to build Smart Client dashboard displays.

### Can user defined displays be accessed by others?

Yes. Displays can be stored as personal displays or can be made accessible to anyone with appropriate credentials.

### How many customer displays can be created?

The number of displays that can be created is only limited by disk space.

### How are calculations done for KPIs?

Calculations for KPIs are typically done in System 800xA or in the historian. Simple calculations can also be done in Smart Client.

## 800xA graphics and trends

### Are the 800xA PG2 graphics converted copies?

No. It is the actual graphic, displaying live data. Users navigate using aspect links to other graphic displays or using the embedded trends controls that are on the graphic, etc. The advantage is evident when someone updates a PG2 graphic and it is automatically updated, in real time, on the active Smart Client desktops.

### Do users get the full 800xA aspect menu when viewing 800xA PG2 graphics?

No. A right mouse click will show the 800xA Smart Client context menu giving the user options for trends and events.

## Can users see faceplates and other aspects?

No. Not unless they are embedded in an 800xA PG2 graphic. The purpose of Smart Client is to allow for the viewing of displays and not to facilitate access to individual graphics. If this is needed, an operator workplace that is configured for view only access, can and should be used.

## Do aspect links that reside in a graphic work when the display is called up?

Yes, if the aspect link goes to another graphic, that graphic will be called up in a new tab.

## How many 800xA PG2 graphics can a user bring up at once?

Approximately one or two graphics, per user, can be viewed at once. Care must be taken to not bring up too many PG2 graphics in 800xA Smart Client as this will degrade performance. If more are needed, please consider having an operator workplace configured for read-only.

## Is 800xA Smart Client a thin client for System 800xA PG2 graphics?

No. It is important to note that Smart Client should *not* be thought of as a replacement for System 800xA products like Remote Desktop, ABB MOD or Exceed, particularly as this is a “view only” tool where the others provide the ability for true control. 800xA Smart Client is intended to serve as an informational tool in an office environment and not a process control station.

## Can users who haven't converted to PG2 graphics use Smart Client?

Yes. Users can still build their own user-defined displays, mine events in 800xA Information Manager or 800xA History, and use the Excel interface. Users can always build a PG2 graphic or convert important graphics to bring up in Smart Client as well.

## Trends and SPC

### How do users define and view trends in Smart Client for 800xA?

- Build trends ad-hoc by dragging and dropping values from a user-defined or 800xA PG2 graphic display into a trend
- Pre-configure trends, pre-populate the tags and save them in the Smart Client workplace
- Browse and access 800xA trend configurations which will bring up Smart Client trends with the same data, scaling, etc



## Does 800xA Smart Client do any SPC analysis?

Smart Client supports Distribution, X-Y Plot, X-Range, X-Sigma, Moving Average (EWMA), Moving Average Range, Moving Average Sigma and Duration charts.

## How far back can trends go?

Trends can go back as far as recorded history, or the earliest data that is still on line in either System 800xA or the attached ABB Historian (Information Manager or 800xA History).

## Alarm and events

### What data analysis is available for alarm and events?

Alarms can be filtered and displayed as: a table, a time distribution chart or a counted view/Pareto chart.

### Does Smart Client access alarm and events that are in the 800xA connectivity server?

No. It brings up the alarm and events from 800xA History or 800xA Information Manager. One of these must be in the system in order to use the alarm and event features of 800xA Smart Client.

### Will Smart Client complete reports needed for alarm analysis per ISA 18.2 or EEMUA 191?

No. To get all the reports specified by ISA 18.2 or EEMUA 191 it is recommended to use 800xA's Alarm Operations option, that includes alarm analysis as well as alarm shelving, grouping and help features and/or alarm history and reports option (introduced in 5.1 FP4).

### Will Smart Client work with other historians, like PGIM?

No. It brings up the alarm and events from 800xA History or 800xA Information Manager. One of these must be in the system in order to use the alarm and event features of 800xA Smart Client. However, all other functions work as Smart Client gets data directly from 800xA.

## Excel interface

## Does use of the Smart Client Excel interface require that the 800xA Smart Client desktop be installed on the same PC?

No. There is no requirement for the Smart Client desktop and the Smart Client Excel interface to be installed on the same PC. Each application has its own connection to the Smart Client server. However, as both applications are part of the 800xA Smart Client software, most customers will install both applications even if they only chose to run one at a time.

## PC and operating system requirements

Smart Client Nodes	Supported Windows and Microsoft Office
Smart Client Excel Interface	Windows server 2003 SP2 (32-Bit) Windows server 2008 (32-Bit) Windows XP SP3 Windows 7 (32-Bit or 64-Bit)
Microsoft Office	MS Office 2007 SP2 (32-Bit) MS Office 2010 (32-Bit)
Supported operating systems	Smart Client nodes
Windows server 2003 SP2 (32-Bit)	Smart Client server Smart Client data provider Smart Client desktop
Windows server 2008 (32-Bit)	Smart Client server Smart Client data provider Smart Client desktop
Windows XP SP3	Smart Client data provider Smart Client desktop
Windows 7 (32-Bit)	Smart Client data provider Smart Client desktop
Windows server 2008 (64-Bit) Windows 7 (64-Bit)	Smart Client desktop

# Special offer project requirements

## What does the customer need to do to best facilitate the use of 800xA Smart Client?

- Jointly approved project scope and schedule
- 800xA version needs to be at System 800xA 5.1 Rev A or later (for access to PG2 graphics)
- One desktop PC with minimum of 2 GB available RAM, 4 GB free hard-disk space, dual network card, Windows 2008 (32 bit) OS and network connectivity to host Smart Client server
- Approved access to the 800xA connectivity server that is targeted as the Smart Client data provider
- Opening of port 19131 and port 80 on the firewall between plant network and corporate network
- MS Excel 2007 or 2010 on client nodes if using the Excel interface add-on

## How long will installation take?

If all pre-requisites are complete, installation will take 2-3 hours.

## How long will training take?

Initial training to get started with 800xA Smart Client will take only a few hours. A more elaborate workshop / training is also offered and typically takes 1.5-2 days.

## Will training be conducted with the user's system?

Yes. If training is on-site, then it makes sense to use the existing system to familiarize personnel with Smart Client and its capabilities. Also, remember that Smart Client is a read-only visualization tool, so there's no risk to the 800xA system that is running the process.

## Can users request a specific solution or help with creating applications?

ABB offers customized implementation of Smart Client with customer specific dashboards and KPI displays. Contact a service account manager for more information.

## Can more clients be added later?

Since there's no software to load, all that is needed are additional licenses. Contact a service account manager for more information.

## What is needed for administration and maintenance of 800xA Smart Client?

Smart Client is very easy to maintain. Administration and maintenance will be covered in the training.

## Contact us

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