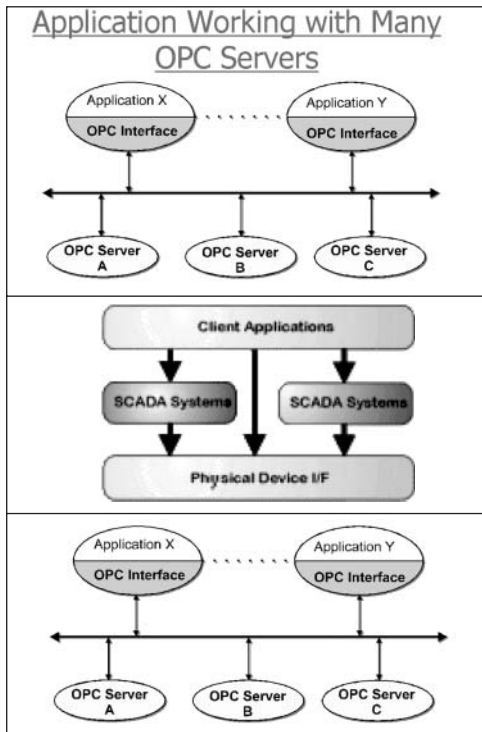


Practical

FUNDAMENTALS OF OPC (OLE FOR PROCESS CONTROL)



AFTER THIS WORKSHOP YOU WILL BE ABLE TO:

- Describe what OPC is and how to apply it to your applications
- Demonstrate how an OPC Server is designed
- Demonstrate how an OPC Client is designed
- Understand OPC Data Access 2.0
- Describe the key components of OPC
- Describe the key features of OPC
- Configure a simple application to display data from the plant floor
- Build a complete SCADA System and supporting components using OPC
- Enhance your existing legacy control system networks to use OPC
- Understand why OPC is such a robust solution
- Know why you need to demand OPC in your products
- Migrate your process data seamlessly into your office Word/Excel/Access Applications

WHO SHOULD ATTEND:

If you are using any form of automation or communication system or are applying PCs/PLCs/SCADA systems, then this workshop will give you the essential tools in working with OPC. It is not an advanced workshop - but a hands-on one.

Typical People who would benefit are:

- Process Control and Instrumentation
- Engineers and Technicians
- Design Engineers
- Network Engineers
- Electrical Engineers
- Engineering Managers
- Network System Administrators



Technology Training that Works

THE WORKSHOP

OPC, or OLE for Process Control, has come a long way in making the engineer's dream of plug-and-play compatibility in automation engineering achievable. OPC is an industry wide standard that breaks this proprietary lock by allowing open connectivity based on the principles adapted from widely accepted and applied 'Microsoft Windows' integration standards. OPC capabilities have been demonstrated in many practical applications and it is now a very well established approach for different competing manufacturers. It is now also considered the standard interface in the Windows environment. If you are serious about reducing your costs of installing and maintaining your automation systems you need to use OPC.

If you have only briefly heard about OPC and want to get to grips with its tremendous power and apply this to your plant and application, then this workshop will give you the necessary tools. You will receive a valuable overview of OLE for Process Control (OPC) and understand why it is the standard of choice for data access in automation systems. You will be exposed to and understand the essential components of OPC based on typical applications. You will understand how OPC Servers are installed and how they are then accessed by OPC clients (which could be SCADA systems). The exercises that you will work through will allow you to apply the theory you gain in the class in a practical manner.

The OPC Specification will then be discussed in great detail and you will be exposed to the development of OPC Servers and Clients. The interaction between OPC and DCOM will be discussed in practical detail.

The latest trends and future developments with OPC in the USA and Europe will be detailed.

PRE-REQUISITES:

A good knowledge of the Windows environment is helpful. You should have been working in the Automation, Process Control, SCADA and/or PLC environment to appreciate the need and power of the OPC standard.

PRACTICAL SESSIONS

- Connect up different packages using OPC
- Troubleshooting problems

THE PROGRAM

DAY ONE

INTRODUCTION TO OPC

- What is OPC
- Advantages of OPC as a manufacturer independent interface standard
- Microsoft DNA Concept
- What solutions does OPC Offer
- Functions included in OPC
- Benefits of using OPC
- Development Tools available
- Companies Implementing OPC
- Sources of Further Information
- Data - where is it and how is it organised
- Client architecture
- Current and Custom

COM AND DCOM FUNDAMENTALS

- What is COM?
- COM fundamentals
- COM Interfaces
- Major benefits
- Interface Unknown
- COM Client/Server model
- Clients, Servers, COM Library and SCM
- What is DCOM?

OPC OBJECT MODEL AND CLIENT/SERVER LINKS

- The OPC Object Model
- Server, Group and Item Objects
- OPC Client/Server relationship
- Client and Server requirements
- Network Issues
- Client applications
- Web Enabled SCADA

ALARMING AND OPC

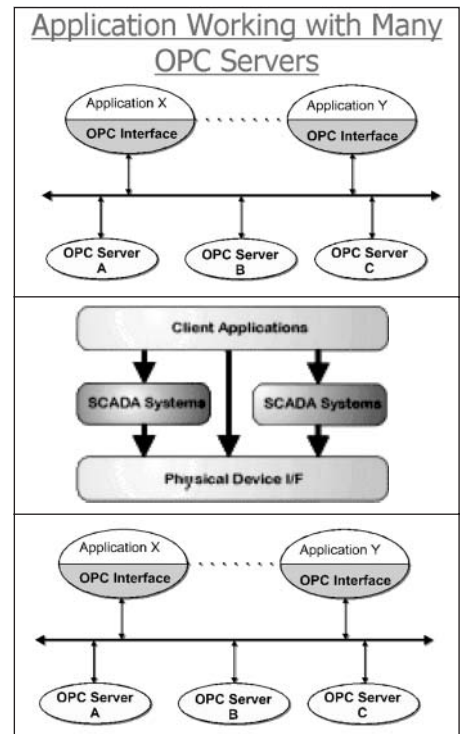
- Alarm Management
- OPC Alarm Server configuration
- Alarm Logging
- Multimedia Alarming
- Real Time Trending
- Historical Data Logging

OPC DX INITIATIVE

- OPC Based Networking concepts
- Brief Review of Ethernet and TCP/IP
- Implementation of DX

PRACTICAL IMPLEMENTATION

- OPC Bridging and Redundancy
- Graphic Design and OPC Connectivity
- Expressions
- Practical Examples
- Avoiding the performance bottlenecks to OPC interface
- Practical Issues
- Tips, Tricks and Pitfalls



“

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J. Guthrie

”

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