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User's Guide

@aGlance/IT™ Installation and Operations

INTUITIVE TECHNOLOGY CORPORATION

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User's Guide

@aGlance/IT™ Installation and Operations

INTUITIVE TECHNOLOGY CORPORATION

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Preface

Intended Audience

This manual describes how to install and maintain @aGlance/IT V3.0 on IRIX, SCO Unix, Windows NT, Windows 95, HP-UX, OpenVMS, AIX, and OSF/1. It explains how to install ObjectBroker, the @aGlance/IT System Developer's Kit, the @aGlance/IT Full function RunTime Kit, and the @aGlance/IT Client RunTime Kit. It is intended for system managers who are already familiar with the operating systems on which they will be performing the installation.

Conventions

There are many related concepts identified here as clients and/or servers. When confusion seems likely by simply referring to a client, or a server, they will be used as adjectives to distinguish a server node from a server application. In general, the meanings are clear from context.

Typed operator input and computer output will be shown in a `monotype font`.

Related Documents

- *@aGlance/IT System Developer's Guide*
- *@aGlance/IT for Microsoft Windows User's Guide*
- *@aGlance/IT for Microsoft Excel User's Guide*
- *@aGlance/IT for Lotus 1-2-3 User's Guide*

Unless you are using the SDK to develop your own, you should also have documentation from your client or server provider. You can find more information on VMSINSTAL in the *OpenVMS System Manager's Manual*, a part of the base documentation set for that operating system. You can obtain more information on TAR from the MAN pages on your Unix system.

Support and Training

If you purchased your license to use @aGlance/IT software directly from Intuitive Technology or through a reseller, you received an Intuitive Technology Corporation Software Agreement along with the media and documentation. Intuitive Technology will answer @aGlance/IT product-related questions for registered users for 60 days from the date of purchase. Support contracts are available which extend your coverage to one year from the date of purchase, and provide for low-priced upgrades during that year.

If you have licensed @aGlance/IT from a company other than Intuitive Technology, then you must contact that company (OEM) for support and upgrades.

You may contact us by phone at 508 481-3992, by facsimile at 508 481-1802, or by Internet mail at support@aglance.com. We're available from 8:15am to 5:00 p.m. Eastern time, Monday through Friday. Please provide your serial number (on your Software Agreement) when you contact us.

Intuitive Technology offers on-site courses for both system and application developers, system managers, support personnel, and end users. Please call to arrange a course tailored to your needs.

Chapter one

Introduction

@aGlance/IT is a multi-platform, client-server enabling technology for process manufacturing. Through the use of @aGlance/IT, process data stored in Distributed Control Systems, Supervisory Control Software, and Process Data Historians is readily accessible by all @aGlance/IT capable client applications. Conversely, once a client application such as a spreadsheet, man-machine interface, manufacturing execution system, or electronic batch record system has been made @aGlance/IT capable, it will be able to access data in any and all @aGlance/IT enabled process information systems.

@aGlance/IT achieves plug and play interoperability through the use of a standard data model and a set of generic methods (functions). Client applications make local method invocations which are transmitted to the appropriate server by @aGlance/IT, where they are translated to and from the proprietary functions that are specific to that process information system.

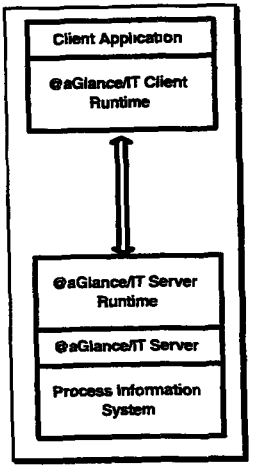

Figure 1
System Overview

The @aGlance/IT software implements a tag and attribute data model that is familiar to process professionals, and is embodied in ISA's SP72 specification. The methods are an abstraction of the functions available in popular information systems; e.g., get/put real-time data, get/put historical data. There are also functions to facilitate browsing a process data base: clients can request a list of the tags and associated attributes available from a server. This is particularly useful for ad hoc data analysis.

For security purposes, users are identified by login name on multi-user systems, and by node or host

name on personal computers. An outer level of security determines which users may access a given @aGlance/IT server, based on the proxy access granted on the server's system. @aGlance/IT permissions, implemented at the discretion of the server provider, enable the protection of individual methods or even data points.

The @aGlance/IT System Development Kit enables the development of clients and servers in C and C++ on OpenVMS, Unix, and Windows. On Windows, client applications may also be developed using Lotus 1-2-3 and Microsoft Excel, Visual Basic™, Microsoft Access, and Powerbuilder. Any DDE client capable application can utilize @aGlance/IT servers, as can OLE container and controller applications. Direct connections are also available to popular MMI packages.

Many suppliers of process information systems have already developed servers for their systems, and offer the servers as products to their customers. In addition, Intuitive Technology offers servers for certain information systems.

Servers

In order to make an existing application accessible to @aGlance/IT clients, software must be written that translates between the @aGlance/IT methods and data structures, and those of the existing application. This software is typically written by the provider of the existing application, using the System Developer's Kit. In the Server Components diagram, this is the @aGlance/IT Server. The word server will often be used to describe the data source, the @aGlance/IT server, and the @aGlance/IT RunTime software collectively.

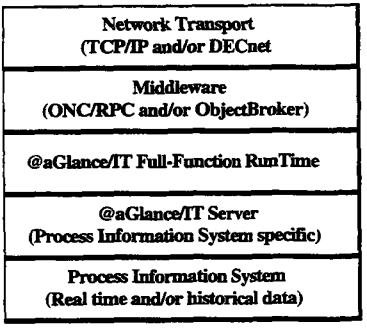

Figure 2
Server Components

Thus if you have an existing data historian or supervisory control system, you will need to install two pieces of software in order to make it accessible to @aGlance/IT client applications. You must first install and configure your @aGlance/IT software. Then you must need to install the @aGlance/IT Server, following the instructions from the supplier of that software.

Clients

In order to make an existing application able to access @aGlance/IT servers, software must be written that translates requests for data into @aGlance/IT methods, and translates the returned results as well. If you are performing an installation for a client system, you must perform an @aGlance/IT installation, and install the @aGlance/IT Client. Note that if the client application will be running on a system that has the Full Function RunTime software installed, you do not need to install the Client RunTime software.

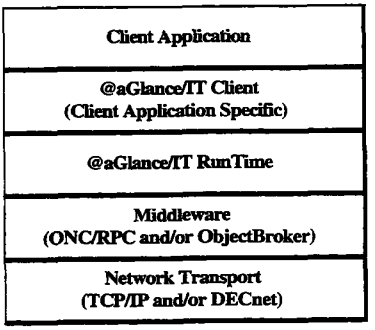

Figure 3
Client Components

The situation for clients on Unix and OpenVMS is completely symmetric with the situation for servers. That is, you install @aGlance/IT, and then an @aGlance/IT client process.

On Windows platforms, there are two client software packages: (1) Standard Edition, which contains the @aGlance/IT DDE Bridge and Addins for Excel and 1 2 3, and (2) Professional Edition, a superset of the Standard Edition which also contains NetOLE, the @aGlance/IT VBX for Visual Basic developers, and the C language client developers tools. Both of these packages include a Client RunTime.

An Excel Addin is available for the Apple Macintosh

@aGlance/IT Infrastructure

@aGlance/IT utilizes industry standard middleware, which in turn rests on standard network transports. In Version 3, @aGlance/IT was enhanced to utilize Sun Microsystems Inc.'s Open Network Computing, Remote Procedure Call (ONC/RPC) mechanism. @aGlance/IT was originally developed to use Digital Equipment Corporation's ObjectBroker middleware, and continues to support that product for certain platforms and network transports. With the ability to support two very different middleware layers, @aGlance/IT is on the way to achieving middleware independence.

Figure 4 illustrates the major components of an @aGlance/IT system. The shaded area represents the middleware layer. In Version 2, all the middleware functions were provided by ObjectBroker, which was bundled with @aGlance/IT. In Version 3 systems, @aGlance/IT provides the *Name Server* capability, while the *Port Mapper* and remote procedure call mechanisms are part of ONC/RPC.

ONC/RPC is a building block for Sun's Network File System, and thus is a part of all Unix and OpenVMS systems which are configured as NFS servers. ONC/RPC is bundled with all @aGlance/IT for Windows products. A Port Mapper is bundled with Windows Server RunTimes.

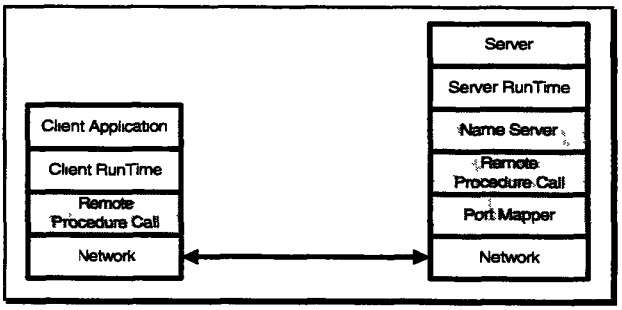

Figure 4
@aGlance/IT Components

In order for a client application to make successfully utilize the facilities of a server application, the network software and @aGlance/IT must be configured properly on both the client and the server systems. Clients reference servers by *server name* When it starts up, a server issues an initialization request to the Server RunTime which specifies the server name, and the level of privilege required for clients.

When a client requests a connection, the Client RunTime examines the *Server Hosts* list configured on that client system. The RunTime then contacts the @aGlance/IT Name Server on each of the specified hosts to determine if a server by that name is registered on that host, and if the client has the appropriate privilege to connect to that server.

In order for the Client RunTime to locate the Server Hosts, the network software on the client must be configured correctly to translate from the hostnames in the Server Hosts list to internet protocol (IP) addresses. The ONC/RPC *Port Mapper* must be running on each server node to enable the Client RunTime to locate the Name Server, and thereby determine if the specified server is indeed running on this Server Node. Once the requests reach the Server RunTime, the appropriate proxies and permissions must have already been configured to allow the client to access the server.

Since @aGlance/IT clients and servers may have very different hardware architectures, it may be necessary to translate between numeric formats; e.g., VAX floating point and IEEE floating point. The most fundamental aspect of @aGlance/IT operation is that client requests are carried out on a remote computer system. This means that the parameters of the client request must be gathered up, packaged, sent across a communication channel, unpackaged and translated into the server's data formats, before being given to a server process to carry out. The same thing happens in the opposite direction as the result of the request is returned to the client. This format conversion and argument marshalling are carried out by middleware.

The middleware layer in turn depends upon the network transport software to handle the details of the communications interface, detect and recover from transient line errors, segment large transfers into packets appropriate for the particular communication hardware, map host name into internet address into hardware (Ethernet or Token) adapter address, and provide multiple logical channels across a single physical channel.

ObjectBroker Concepts

An @aGlance/IT Version 3 installation always copies the software necessary to use ONC/RPC onto your system. In addition, if you are upgrading from Version 2, or if you purchased @aGlance/IT with ObjectBroker, then your system will be set up to use both protocols simultaneously. The specific middleware used between a particular client and a server is determined when you configure the Server Hosts list with the AAG Administration utility. The use of ObjectBroker enables the use of Digital's DECnet Phase IV network transport between certain client and server platforms.

The server process shown in the Server Components diagram is known to ObjectBroker as a *method server*. The system process that manages method servers is called the *control server*. @aGlance/IT requires that there be a control server on each node that will have either an @aGlance/IT client or server. ObjectBroker facilitates the establishment of sessions, or connections, between client applications and method servers. An extension to the Digital Command Language enables you to show the status of servers and connections, and to terminate them if necessary. A similar command line facility is available under UNIX.

ObjectBroker provides network wide identifiers, called Universal Unique IDentifiers (UUIDs). Each method server has an *instance UUID* and a *class UUID*. All @aGlance/IT servers have the same class UUID.

When an @aGlance/IT server starts, it invokes the AAG_ServerInit function. At that time, that process becomes a *registered* method server, and is assigned a UUID.

Client and Server Nodes

The association of a server application name with a network node name occurs when the server starts up. One of the benefits of @aGlance/IT is that clients do not need to be aware of which node the server is running on; i.e., a client should be oblivious to a server application that runs on a different computer system with a different node name each day. This all works if and only if during installation:

1. All the potential server nodes are defined in the client node's permanent (DECnet) or hosts (Internet) database, and

2. The platform type of each potential server was registered using the AAG Admin utility program.

DECnet NOTE

All potential client nodes must be registered in each server's permanent network database. If a server does not have a client in its permanent database, the client will experience authentication failures when it attempts to utilize that server.

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Security Topics

@aGlance/IT provides two security mechanisms which may be used separately or in combination. Each server provider decides the degree of access control that is appropriate for their system. You must find out from your server provider which mechanism(s) they implemented in order to be able to configure your system.. Security is administered on a per server basis, at the server, using the AAG_Admin Utility Program.

Proxies

It is possible to control client access to a server based on the local account with which the client is associated. @aGlance/IT provides a scheme of *proxies* whereby remote clients are "mapped into" accounts on a server host.

Depending upon the way it was programmed, a server application may inform the @aGlance/IT RunTime that client access should be controlled by privileged access. In that case, a client must be proxied to the local account under which the server is running, or to the system account, in order to access the functions of the server.

The details vary somewhat by server operating system. See the discussion of the AAG_ServerInit library function in the *@aGlance/IT System Developer's Guide* for more information.

With proxies, you can map a single user on a specific node to a local account. You can map all users on a specific node to a single local account, and you can specify that when no other mapping applies, any client on any node is assigned to a default local account. Depending upon the server implementation, permissions provide a better mechanism for controlling access on a function by-function basis.

Consider a single host computer which provides a platform for two servers, one capable of both reading and writing process data, the other restricted to read access. If the first server is run in account RWDATA, while the other is run in account RDONLY, you could proxy all users on host ENGRNG to account RWDATA, and all users on host FINANC to RDONLY. As the system administrator, you could proxy client MYPC into account SYSTEM, and have access to both servers.

Proxies can also be used if you have two servers on the same computer system with different databases, perhaps for different process units, that have distinct user communities. (This is, of course, especially true if you are debugging a server.)

If the server is programmed for *all access*, then proxies have little importance. In this case, any client proxied into the account the server is running in will be able to perform @aGlance/IT administration functions on that server.

If you have multiple @aGlance/IT servers on your corporate network, you may wish to control which clients can access each server.

Proxies are also useful in combination with permissions. If permissions are granted to proxy accounts on the local system, then all clients that are assigned to that proxy account will have the same permissions. In this case, it may be useful to have multiple proxy accounts, along with a server that is programmed for ALL ACCESS, with each account having a different set of permissions.

When @aGlance/IT is installed, a default proxy account called AAG is defined in the security database.

Permissions

Proxies determine which clients can invoke methods in which server applications on a server node. It is up to the @aGlance/IT server to determine if it will carry out the method, based on server-specific *permissions* assigned to that client. Permissions are character strings that are unique to a server. You must consult your server provider's documentation to configure the required permissions.

Permissions are also used by @aGlance/IT to determine which clients will be permitted to list active server session information, to stop other client's sessions, or to stop the server. When @aGlance/IT is installed, all three *management permissions* are granted to the AAG account. Note that as a client, you can always list and stop your own sessions.

The server provider can choose to selectively enable individual functions to specific classes of users, or even restrict access to a specific data point. Typical uses would be to restrict the use of the put functions and to restrict read access to sensitive information.

For example, while all users on node FINANC are permitted access to the historical data, only user OPERATIONS on node ENGINR is allowed to modify value of the analog setpoint (C_ASP) parameter of tag B_REACTR.

	AAG_ALL_ACCESS		AAG_PRIV_ACCESS	
	Proxies	Permission	Proxies	Permission
Start Session	Not Required	Server Specific	Owner, System	Server Specific
Client Methods	Not Required	Server Specific	Owner, System	Server Specific
List servers	Not Required	Not Required	Owner, System	Not Required
List sessions	Owner	Not Required	Not Required	ListSession
	Not Required	ListSessions		
Stop session	Owner	Not Required	Not Required	StopSession
	Not Required	StopSession		
Stop server	Owner	Not Required	Not Required	StopServer
	Not Required	StopServer		

Table 1
Security

Using the AAG_Admin Utility Program, you can provide a default set of permissions for all clients, a more powerful set of permissions to all users on a particular client host, and yet another set of permissions to a specific user on the client host. A client user is granted those permissions that are most specific, i.e., you will receive the permissions that most nearly match your characteristics. If your client node and username are specified, then you will not receive any default permissions that may have been defined for that server.

Authentication (ObjectBroker only)

Authentication in general relates to the way in which a system determines who a user is. DECnet supports a scheme for matching valid username and password combinations across a network. If DECnet is specified as the transport during ObjectBroker installation, then authentication is enabled automatically. If TCP/IP is specified, then authentication is set to TRUSTED.

The AAG_Admin tool is aware of the rules concerning authentication, but it does not enable changing the type of authentication being used. You can change the type of authentication by reinstalling ObjectBroker and changing your choice of transports, or by editing the System Context Object on OpenVMS.

NOTE

All your nodes must be configured for the same type of authentication and the same network transport, or you cannot utilize @aGlance/IT.

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Getting Started

If you haven t already done so, you'll need to install and configure your network transport, either DECnet or TCP/IP If your transport is DECnet, you must also install Digital Equipment Corporation's ObjectBroker software. You next install @aGlance/IT and then use the AAG_Admin utility program to configure your system.

Hardware and Software Requirements

Client and server applications can be @aGlance/IT enabled on Windows NT and Windows 95, on OpenVMS for VAX and for Alpha AXP, for HPUX, IRIX, AIX, SCO Unix, and Digital Unix. @aGlance/IT requires either DECnet or TCP/IP as an underlying network transport.

Contents of the Kits

The System Developer's kit contains the @aGlance/IT Full-Function RunTime libraries and the definition files you'll need to compile a client or server. Several sample clients and servers are included in source form.. If you're building a server, you can use the sample server as a template, and use the sample client to help test your server. Sample server and sample client illustrate the basic @aGlance/IT funtionality, and may be all you need for many applications. Monitor server and monitor client demonstrate asynchronous event notification, and history server and client show the use of the @aGlance/IT history functions.The kit also contains the AAG_Admin utility program.

The Full-Function RunTime kit contains an installation procedure, the @aGlance/IT Server and Client RTLs, the AAG_Admin utility, and an Installation Verification Procedure (IVP). All three pairs of servers and clients are included as executables.

The @aGlance/IT Full-Function RunTime Software and SDKs are supplied in VMSINSTAL format for OpenVMS, as "tar" files for Unix systems, and compressed for use with Setup on Windows. ObjectBroker, available as an option for platforms supported in Version 2, is supplied as 2 VMS save sets, and in platform specific formats on the various Unix variants.

New / Changed Features

@aGlance/IT Version 3 added support for IRIX, Windows NT, Windows 95, and SCO Unix. ONC/RPC middleware support was added. The @aGlance/IT Administration Tool was enhanced to list all available servers on a Server Host, to list open connections to an active server, and to remove "dangling sessions" left over from PC crashes and network outages.

The 2.1 release of the various @aGlance/IT for Microsoft Windows added support for WinSock V1.1 compliant TCP/IP implementations.

With V2.0a, @aGlance/IT kits became available with ObjectBroker bundled in, simplifying ordering and installation.

Beginning with V2.0, OpenVMS is supported on both AXP and VAX systems. AIX is supported on the RISC System /6000, OSF/1 is supported on AXP systems, and HP-UX is supported on the HP 9000 model 700s and 800s. For personal computer platforms, an Add-in is now available for Microsoft Excel for Macintosh, in addition to add-ins for Excel for Windows and Lotus 1-2 3 for Windows. An @aGlance/IT DDE bridge is included with all four @aGlance/IT Windows products.

In V2.0, @aGlance/IT on OpenVMS is implemented as a runtime library. V1.0 compliant servers and clients continue to work, but should be recompiled and relinked to utilize @aGlance/IT V2.0.

Two get history functions were added in V2.0: get history statistics and get history event. These must be implemented by the provider of your @aGlance/IT server before they will be available to you.

Compatibility

When upgraded to Version 3.0, @aGlance/IT clients can still communicate with Version 2 servers, and upgraded servers can still communicate with V2 clients. Clients and servers on platforms that were added in V3 can only communicate with V3 servers and clients, as the new platforms are supported using ONC/RPC, not ObjectBroker.

V2.x clients can access both V1.0 and V2.0 servers. V2.0 servers can be simultaneously connected to both V1.0 and V2.x clients. It is desirable to relink

existing @aGlance/IT connections to the new libraries, so that future runtime upgrades can be made without any modification to your software.

Licensing Practices

As of Version 3, Intuitive Technology no longer distributes a separate Client RunTime license. On OpenVMS and Unix platforms, you must purchase a Full Function RunTime license. On Windows platforms, you may purchase an @aGlance/IT Standard or Professional Edition software license.

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Chapter two

OpenVMS

This chapter explains how to install @aGlance/IT on your OpenVMS system, either VAX or Alpha. It also explains how to install ObjectBroker, which will be necessary if you are using DECnet to communicate to any client systems.

@aGlance/IT is heavily dependent upon the proper operation of the underlying network transport to communicate with remote systems. Before installing the @aGlance/IT software, you must be certain that your network software is properly installed, configured, and operational. The network transport software on both server and client systems must be properly functioning and able to communicate. This chapters explains how to tell if your network software is working.

Before installing the software, you must make sure that your OpenVMS system is appropriately configured. Once the configuration is correct, you run VMSINSTAL to copy the software into the appropriate areas on your system After the software is installed satisfactorily, you should make changes to system startup files.

You should consult your network administrator for the host names of the clients systems with which you will communicate. You should also review the documentation provided by your server supplier to determine which proxies and permissions are required. With this information in hand, you are ready to configure your server system using the @aGlance/IT Admin utility.

In general, the same instructions apply whether you are installing the System Developer's Kit, the Full Function RunTime software, or the Client RunTime software. Exceptions are noted.

Before you perform the @aGlance/IT installation, you must know the answers to the following questions:

- Which network transport(s) will be used? TCP/IP or DECnet IV or both?
- Is the transport operational?
- Is your OpenVMS system appropriately configured for @aGlance/IT?
- Do you need support for ObjectBroker? Will you be using Version 2.1 or V2.5?
- Will this be the first installation of @aGlance/IT on your system, or are you upgrading a DEC @aGlance or @aGlance/IT V2.x system?

Preparing your network software for the Installation

TCP/IP is the preferred network transport for @aGlance/IT Version 3, and is required if you wish to communicate with systems running Windows 95, Windows NT, IRIX, or SCO Unix. When running over TCP/IP, @aGlance/IT can utilize ONC/RPC middleware, with major performance benefits over V2.0. @aGlance/IT requires that your TCP/IP be "UCX compatible."

Of course, @aGlance/IT works well in a DECnet Phase IV only environment, or in situations where some systems will communicate with one transport and some with the other. A common situation is to have Windows PCs using Pathworks / DECnet to communicate to OpenVMS, while Windows95 and NT systems communicate with TCP/IP. In such a situation, @aGlance/IT uses Object-Broker to access the Windows 3.1 systems, and ONC/RPC for the 32-bit systems.

Is your TCP/IP software operational?

You must have your TCP/IP software installed and running before you perform an @aGlance/IT software installation. During TCP/IP installation, you define the *hostnames* of the system you are installing on and of all other @aGlance/IT client and server systems. The TCP/IP software must be configured to include support for ONC/RPC. The startup procedure for the software must be invoked before you begin the @aGlance/IT installation.

You should first verify that your TCP/IP software was initialized through the execution of its startup file. Then use the TCP/IP loopback utility, PING, to verify that the hostname of your local system is properly defined. Use the File Transfer Program, FTP, to ensure that you can make TCP connections, and finally, see that the port mapper is enabled so that ONC/RPC is available.

The details vary from implementation to implementation, and from release to release, and from one installation to another of the same software. Your system may be configured to make all the TCP/IP utilities available as DCL commands, or not. Each vendor implements the system management interface differently; FTP messages vary, and number and names of process differ. In the typical sessions shown, it is assumed that the hostname of your computer is *bythebook*.

An easy way to determine if TCP/IP is active is to display the current version.

```
$UCX SHOW VERSION                ;Digital TCP/IP

$MULTINET SHOW /VERSION          ;TGV MultiNet

$NETCU SHOW VERSION              ;Process Sftw TCPWARE
```

A "unrecognized command verb" error message means that the logical names are not defined, and probably that the startup command file was not executed. Typical startup sequences are:

```
$ @SYS$MANAGER:UCX$STARTUP


$ REPLY/ENABLE=NETWORK/TEMP
$ @SYS$SYSROOT:[MULTINET]START_MULTINET


$ @SYS$SYSROOT:[TCPWARE]TCPWARE LOGICALS
$ @TCPWARE:TCPWARE COMMANDS
$ @TCPWARE:STARTNET

$ @SYS$SYSROOT:[PATHWAY.NETDIST.MISC]STARTINET.COM
```

Verify that your network software is configured for UCX compatibility:

```
$ SHOW LOGICAL UCX$INET_HOST
```

must translate into the hostname of your OpenVMS system. If it does not, be sure that UCX compatibility was enabled during TCP/IP installation, and *reinstall if necessary.*

Use the TCP/IP loopback and file transfer utility to verify that you can communicate with yourself by hostname. The Digital implementation makes a single request. Most of the others will repeatedly send a data packet - you simply check to be sure that the number of bytes transferred is nonzero before terminating the program.

```
$UCX PING bythebook
%UCX I LOOPACT, bythebook is alive

$MULTINET PING bythebook

$PING bythebook                    (TCPware)

$PING bythebook                    (PATHWAY)
```

If PING does not work, you will not be able to install @aGlance/IT. Consult your network manager or the appropriate documentation. PING provides some assurance, but it utilizes the simple, User Datagram Protocol.

FTP uses Transport Control Protocol, just as @aGlance/IT does. Therefore to be certain you are ready to perform the installation, you should FTP to yourself, login to an account, and perform a directory listing. A typical FTP session is shown below.

```
$FTP bythebook                     (Connect to yourself)
bythebook FTP Server Ready
Connected to bythebook
Name (bythebook:system)SYSTEM (Enter an account name)
Username system requires a Password.
Password:********                  (Enter the password)
User Logged in.
FTP>ls                             (list files in account)
FTP>bye
$
```

ONC/RPC is a requirement for @aGlance/IT. Typically, if your TCP/IP is configured as an Network File System (NFS) server, ONC/RPC support is included. If you are using Digital's TCP/IP Services for OpenVMS, you can easily determine if the *port mapper* is running.

```
$UCX SHOW SERVICES
```

Verify that the PORTMAPPER service, implemented by process UCX$PORTM, is running on (TCP) port 111.

The MultiNet port mapper is a part of the MULTINET_SERVER process. Use TGV's SHOW command:

```
$MULTINET SHOW/RPC
```

to verify that the TGV MultiNet PORTMAPPER is enabled on port 111.

The TCPware port mapper is not a separate process, but is rather included in the NFS Server process. Use the Network Control Utility to display the state of your installation:

```
$NETCU SHOW SERVICE 111 TCP
```

NETCU should show sunrpc as an available service.

If you are running Wollongong's PathWay, use the OpenVMS DCL command SHOW SYSTEM, and look for the NFS PORTMAPPER process.

The port mapper must be running before you attempt to install @aGlance/IT Version 3. Consult your network administrator and/or your TCP/IP provider's documentation if necessary.

Verifying your DECnet configuration

If @aGlance/IT is to use DECnet, you must be certain that all client and server nodenames are defined in your permanent network database. In addition, the system parameters SCSNODE and SCSSYSTEMID must be properly defined. You can obtain the values of these parameters through the SYSGEN program.

```
$ MCR SYSGEN
SYSGEN> SHOW SCSNODE
SYSGEN> SHOW SCSSYSTEMID
SYSGEN> EXIT
```

If the value of any of parameters is incorrect, you must use a text editor to modify the SYS$SYSTEM:MODPARAMS.DAT file and then use AUTOGEN to change the system parameters and reboot OpenVMS to utilize the new parameter values.

To define parameters, you make the corresponding entry in MODPARAMS.DAT; i.e.,

```
SCSNODE = "nodename"
SCSSYSTEMID = normalized DECnet address
```

where nodename is the DECnet nodename, and the normalized DECnet address (nda) is calculated from

nda = (1024 * DECnet area number) + node number.

For example, a DECnet address of 38.788 would translate to a normalized DECnet address of 39700. You can find more information about these parameters in the "System Generation (SYSGEN) Utility" chapter of the *OpenVMS System Management Utilities Reference Manual.*

After making the required changes to MODPARAMS.DAT, exit from the editor and run the AUTOGEN procedure to recalculate your system parameters. Enter the following command:

```
$ @SYS$UPDATE:AUTOGEN GETDATA REBOOT NOFEEDBACK
```

When you specify REBOOT, AUTOGEN performs an automatic system shutdown and then reboots the system with the new parameters in effect.

Preparing Your OpenVMS System for the Installation

This section explains what you must do to your OpenVMS system before you begin the installation.

Backing Up Your System Disk

At the beginning of the installation, VMSINSTAL asks if you have backed up your system disk. Intuitive Technology recommends that you back up your system disk before you install any software.

Use the backup procedures that are established at your site. For details about how to back up your system disk, see the chapter describing the Backup Utility in the *OpenVMS System Management Utilities Reference Manual.*

Checking the OpenVMS Version

To check the OpenVMS version that is installed on your system, enter the following command:

```
$ WRITE SYS$OUTPUT F$GETSYI("VERSION")
```

OpenVMS Class Considerations

The following OpenVMS classes are required for full functionality for @aGlance/IT:

- OpenVMS required saveset
- Network
- Programming Support (if you are installing the @aGlance/IT SDK)

For more information about OpenVMS classes and VMSTAILOR, see the chapter called "Customizing the Operating System" in the *OpenVMS System Manager's Manual.*

Process Characteristics

To install @aGlance/IT, you must be logged into an account that has CMKRNL, WORLD, and SYSPRV privileges. You must also have process quotas that match or exceed those shown in the table below.

Attribute	Minimum Value
ASTLM	24
BIOLM	18
BYTLM	32,768
DIOLM	18
ENQLM	200
FILLM	100

Table 2
Minimum Process Quotas

To verify that your account has the required privileges and quotas, enter the following commands:

```
$ SHOW PROCESS/PRIVILEGES

$ SHOW PROCESS/QUOTAS
```

If you need to change the account characteristics, you must use the AUTHORIZE utility (In order to run AUTHORIZE, you'll need to be in an account that has SYSPRV.) For example, if you are running from the SYSMGR account and need to change the ENQLM quota and add a privilege:

```
$ SET DEFAULT SYS$SYSTEM
$ RUN AUTHORIZE
UAF> MODIFY SYSMGR/ENQLM=200
UAF> MODIFY SYSMGR/PRIV=WORLD
UAF> EXIT
```

Log out of the SYSMGR account, log into it again, and the new characteristics will be in effect. For more information on the AUTHORIZE utility, consult the *OpenVMS System Manager's Manual.*

Disk Space Requirement

3000 free disk blocks are required to install @aGlance/IT on an OpenVMS VAX system; 10,000 blocks on OpenVMS for Alpha AXP. To determine the amount of space available on your system, enter:

```
$ SHOW DEVICE SYS$SYSDEVICE
```

System Parameters

In order to install @aGlance/IT, your system must have at least 750 (2240 on Alpha AXP) free global pages, and at least 10 (30 on Alpha AXP) free global sections.

```
$ WRITE SYS$OUTPUT F$GETSYI("FREE_GBLPAGES")
$ WRITE SYS$OUTPUT F$GETSYI("FREE_GBLSECTS")
```

To make an incremental adjustment to a system parameter, including GBLPAGES and GBLSECTIONS, you must make an entry in the file that tells AUTOGEN to increase the current value by the specified amount. So if the WRITE command showed that the value of FREE_GBLSECTS was 8, when installation requires a value of 10, you should put an entry in MODPARAMS.DAT:

```
ADD GBLPAGES - 2
```

If the value of any of parameters is incorrect, you must use a text editor to modify the SYS$SYSTEM:MODPARAMS.DAT file and then use AUTOGEN to change the system parameters and reboot OpenVMS to utilize the new parameter values.

You can find more information about these parameters in the "System Generation (SYSGEN) Utility" chapter of the *OpenVMS System Management Utilities Reference Manual.*

After making the required changes to MODPARAMS.DAT, exit from the editor and run the AUTOGEN procedure to recalculate your system parameters. Enter the following command:

```
$ @SYS$UPDATE:AUTOGEN GETDATA REBOOT NOFEEDBACK
```

When you specify REBOOT, AUTOGEN performs an automatic system shutdown and then reboots the system. Any users logged on to the system are

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immediately disconnected during the shutdown. The reboot puts the new parameter values into effect. You can obtain more information about AUTOGEN in the "AUTOGEN Command Procedure ' chapter of the *OpenVMS System Management Utilities Reference Manual.*

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Installing ObjectBroker

If you are performing an upgrade from DEC @aGlance or @aGlance/IT V2.x to @aGlance/IT Version 3, then ObjectBroker (ACAS) is already installed on your system, and you are not required to re-install it. If you want to be certain that your system only uses ONC/RPC, you may deinstall ObjectBroker before installing @aGlance/IT Version 3. (See ObjectBroker System Management section.)

If you are using TCP/IP as your network transport, and you have no MAC clients, and all of your @aGlance/IT systems will be running Version 3, you should skip this section and go directly to Installing @aGlance/IT. @aGlance/IT Version 3 utilizes ObjectBroker when communicating with systems running earlier versions of @aGlance/IT, when communicating with systems using Digital Equipment Corporation's DECnet Phase IV networking, and/or when communicating with the Apple Macintosh.

If you purchased @aGlance/IT with ObjectBroker, then your distribution media includes the savesets for ObjectBroker V2.1. If you obtained ObjectBroker from another source, perhaps as a part of Digital's NAS package, you may have received either Version 2.1 or V2.5.

The instructions in this document apply only to the ObjectBroker installation procedure on the @aGlance/IT kit. If you received the kit from Digital, you must follow their installation instructions.

If you have ObjectBroker Version 2.5, be sure to follow the instructions for installing the ACAS compatibility kit. Note particularly that you must deal with OBB$AGENT, which changes the DCL commands ($APPL/BROKER SHOW AGENT instead of $APPL/CONT SHOW CONTROL), adds command files (OBB$STARTUP.COM must precede ACAS$STARTUP, OBB$SHUTDOWN stop the agent), and in general behaves somewhat differently.

Once you have the ObjectBroker Installation Verification Procedure running without errors, you should install @aGlance/IT and then use Intuitive's AAG_Admin Utility program to configure your system, including ObjectBroker.

The VMSINSTAL script requires that your network transport is installed and running before you install ObjectBroker.

Preparing ObjectBroker

To determine if ObjectBroker version is already installed and running on your system, enter the following command:

```
$ APPLICATION/CONTROL SHOW VERSION
```

If you are re-installing ObjectBroker, then you must first halt the active copy. Use the following command to halt it:

```
$@SYS$MANAGER:ACAS$SHUTDOWN
```

The appropriate network transport must be running in order to successfully execute the Installation Verification Procedure. If you specified TCP/IP for the transport, the installation looks for a running process named INET ACP or UCX$INET_ACP. If it does not find such a process, the installation procedure asks if you are running a UCX compatible TCP/IP product. If you answer YES, then the installation proceeds normally. Otherwise, the installation process does not attempt to start ACAS, nor try to run the IVP.

Running VMSINSTAL

First insert the distribution medium in the drive. Invoke the VMS installation process as follows:

```
$ @SYS$UPDATE:VMSINSTAL acasrto021 ddcu (VAX)
```

or

```
$ @SYS$UPDATE:VMSINSTAL acasaxprto021 ddcu (AXP)
```

where ddcu is a device name specifier in the usual device code/controller letter/unit number form. For example, MTA0: might be the device name for your tape drive, DKA500: might be the name of your CD-ROM drive. If you are installing from CD-ROM, you must supply a directory name too; e.g.,

```
$ @SYS$UPDATE:VMSINSTAL acasrto DKA500:[ACAS] (VAX)
```

You will be asked a series of questions. The suggested answers are shown in bold with the questions.

```
* Are you satisfied with the backup of your system disk
[YES]? Y
```

```
* Enter installation options you wish to use (none): N
```

If you will be using DECnet to communicate with @aGlance/IT clients and servers, then you have DECnet installed and running on your system, and the following dialog occurs:

```
* Enter the name of transport to be enabled [DECnet]:
DECnet

%ACASDEV I DEFAUTH, DECnet is available.
Authentication defaulted      to ENABLED.
```

If you will be using TCP/IP to communicate with @aGlance/IT clients and servers, then you have TCP/IP for OpenVMS or "UCX compatible" software installed and running on your system. The following dialog occurs:

```
*Enter the name of transport to be selected [TCP/IP]:
TCP/IP

*Will DECnet be available on this node for
authentication [YES]: N
```

In either case, if there are questions about node names or node numbers, you should terminate the installation, and install and/or configure your network transport software.

If you are reinstalling ObjectBroker, the following question appears:

```
*Do you want to purge files replaced by this
installation [YES]? Y
```

Next, you are asked if the Installation Verification Procedure should be run.

```
*Do you want to run the IVP after the installation
[YES]? Y
```

Finally, define the location for the ObjectBroker file directories, then watch the installation output on your terminal. You can safely ignore information about ACAS STARTUP_DDE, as this software is not used by @aGlance/IT. Finally, the IVP runs, and should complete without an error.

You can also run the IVP directly:

```
$ @SYS$TEST:ACAS$IVP
```

Installing @aGlance/IT

Insert the distribution medium in the drive. Log in to the system manager's account or an account with equivalent privileges.

If you are installing the System Developer's kit, enter

```
$ @SYS$UPDATE:VMSINSTAL aagdev030 ddcu:
```

If you are installing the Full-Function RunTime kit, enter

```
$ @SYS$UPDATE:VMSINSTAL aagrt030 ddcu:
```

where ddcu is a device name specifier in the usual device code/controller letter/unit number form. If your are installing from a CD-ROM, you must also specify a directory; e.g.,

```
$ @SYS$UPDATE:VMSINSTAL aagrt030 dka500:[AAG]
```

You will be asked a series of questions. The suggested answers are shown in bold with the questions.

```
* Are you satisfied with the backup of your system disk
[YES]? Y

   *Do you want to purge files replaced by this
   installation [YES]? Y
```

Next, you are asked if the Installation Verification Procedure should be run. Intuitive Technology recommends that you run the IVP at this time, and again after you configure the system with the AAG Admin utility.

```
   *Do you want to run the IVP after the installation
   [YES]? Y
```

If the installation procedure finds TCP/IP installed and running, then it will install support for ONC/RPC middleware. If the installation procedure finds both ObjectBroker and a network transport installed and running, then it will install support for ObjectBroker. If neither of these conditions is satisfied, the installation procedure display warning text, and then offers you the opportunity to continue with the installation anyway. It is strongly recommended that you exit the installation procedure and get the prerequisite software running.

If conditions are appropriate for the installation, the @aGlance/IT software is copied onto your system disk If you asked that the IVP be run, then the installation procedure starts the @aGlance/IT name server and invokes the IVP. There are sample installations and a successful IVP run in Appendix B.

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Configuring @aGlance/IT

System Developer's kits

Depending upon whether you are developing a client or a server, you should follow the directions in one of the next two sections.

Configuring Your Client System

If you haven t already done so, make sure that all potential server nodenames are in your node database. Then use the AAG_Admin utility to register the platform type of each potential server node. You can find more information on the administration utility in Appendix A. Your account must have BYPASS or SYSPRV privilege in order to execute AAG Admin. You can invoke the utility as follows:

```
$ RUN SYS$SYSTEM:AAG_ADMIN
```

After you exit AAG Admin, you should run the IVP. In order to do so, you must have the following privileges: NETMBX, PRMMBX, SYSLCK, WORLD, and GROUP. To run the IVP, enter:

```
$ @SYS$TEST:AAG_IVP.COM
```

As the IVP progresses, informational messages are displayed. If the IVP fails, the reason for failure is indicated. You should correct the problem and run the IVP again. When the IVP executes successfully, the @aGlance/IT software is ready for use. The installation is complete.

Configuring Your Full-Function System

If you haven t already done so, make sure that all potential client nodenames are in your node database. Then use the AAG_Admin utility to create proxy accounts for all clients, and to associate the appropriate permissions for each proxy. (See your server documentation for information on required proxies and permissions.) You will find more information on the administration utility in Appendix A. Your account must have BYPASS or SYSPRV privilege in order to execute AAG Admin. You can invoke the utility as follows:

```
$ RUN SYS$SYSTEM:AAG_ADMIN
```

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After you exit AAG_Admin, you should run the IVP. In order to do so, you must have the following privileges: NETMBX, PRMMBX, SYSLCK, WORLD, and GROUP. To run the IVP, enter:

```
$ @SYS$TEST:AAG_IVP.COM
```

As the IVP progresses, informational messages are displayed. If the IVP fails, the reason for failure is indicated. You should correct the problem and run the IVP again. When the IVP executes successfully, the @aGlance/IT software is ready for use. The installation is complete.

@aGlance/IT System Management

Changes to System Files

To start @aGlance/IT automatically each time you boot your system, you must edit the system startup file: SYS$MANAGER:SYSTARTUP_V5.COM(VMS 5.x) or SYS$MANAGER:SYSTARTUP_VMS.COM (VMS V 6.x). Since @aGlance/IT requires that the network transport be running before it does, you must make sure that the following command comes after the command(s) to start your network transport(s).

```
$ @SYS$STARTUP:AAG$STARTUP.COM
```

This procedure installs the shared libraries and starts the name server. The name server registers itself with the RPC port mapper, using the program number 300359.

Stopping and Deinstalling @aGlance/IT

The command file SYS$MANAGER:AAG$SHUTDOWN is provided to stop @aGlance/IT. If you wish to remove @aGlance/IT from your system, you can use the command file SYS$MANAGER:AAG$DEINSTALL.

Sample Server

Several clients and serversare supplied on your @aGLance/IT, primarily for the use of developers. One is particularly useful if you have PC clients, and wish to verify that communication is possible before you install your production server. This *sample server* responds to GetTags, GetAttrs, and Get (data) requests. It is invoked by

```
$ RUN/DETACHED/PROCESS=SAMPLE AAG$SYSTEM:SAMPLE_SERVER
```

On the PC side, use the AAG_Administration tool to show servers and sessions, and run the sample client to exchange data.

ObjectBroker System Management

Changes to System Files

To start ObjectBroker automatically each time you boot your system, you must edit the system startup file: SYS$MANAGER:SYSTARTUP_V5.COM(VMS 5.x) or SYS$MANAGER:SYSTARTUP VMS.COM (VMS V 6.x). Since ObjectBroker requires that the network transport be running before it does, you must make sure that the following command comes after the command(s) to start your network transport(s), and before the command to start @aGlance/IT..

```
$ @SYS$STARTUP:ACAS$STARTUP.COM
```

You should also add the ACAS$MANAGER Rights Identifier to the user account that you will use to manage @aGlance/IT processes. The following example shows how to add the ACAS$MANAGER Rights Identifier to user Harrison:

```
$ SET DEFAULT SYS$SYSTEM
$ RUN AUTHORIZE
UAF> GRANT/IDENTIFIER ACAS$MANAGER HARRISON
UAF> EXIT
```

VAXcluster considerations

If you intend to execute @aGlance/IT on other nodes in your VAXcluster, and you have individual licenses for each of the nodes which will execute @aGlance/IT simultaneously, you must create the appropriate system specific directories. This is done by executing the command procedure

```
$ @SYS$MANAGER:ACAS$ADD CLUSTER NODE.COM
```

on each node.

ACAS System Library Files

ObjectBroker behavior is determined from two files called the System Context Object, located in the ACAS$LIBRARY directory
ACAS SYSTEM CONEXT.CO on OpenVMS, and the System Class Repository, stored in ACAS$LIBRARY as
ACAS SYSTEM REPOSITORY.CR. During a Version 2 to Version 3 upgrade the @aGlance/IT installation procedure reads these files and stores site

specific information in the configuration file AAG.INI. The AAG Admin program operates on the INI file, and changes the System Context Object file to match. Thus any changes to the ObjectBroker configuration must be made with the AAG Admin Utility. Any change you make by editing the files or by using the ACASWIN program will be lost the next time you run AAG Admin.

The System Context Object and the Class Repository are initialized during the first ObjectBroker installation on your system, and are modified during @aGlance/IT installation. They are not initialized if you reinstall the software. If you want to start over from the beginning, you must manually delete these files before reinstalling ObjectBroker.

Deinstalling ObjectBroker

First determine if there are any method servers running, and if so, terminate them.

```
$ APPL/CONT SHOW SERVER

$ APPL/CONT STOP SERVER ...

$ @SYS$MANAGER:ACAS$SHUTDOWN
```

Delete the @aGlance/IT specific file in the ObjectBroker library area, invoke the ObjectBroker deinstallation procedure, and remove the license.

```
$ DELETE ACAS$LIBRARY:AAGOBJ.CR;*
$ @SYS$MANAGER:ACAS$DEINSTALL
$ LICENSE DELETE ACAS-RT
```

Changing the Network Transport

Your selection of network transport during ObjectBroker installation is stored in the System Context Object. You can change your choice of transport by reinstalling ObjectBroker, by editing the System Context Object, or, with @aGlance/IT Version 3, by simply executing a command file. The commands below switch from TCP/IP to DECnet (dnet), and from DECnet to TCP/IP, respectively.

```
$ @sys$examples:aag_acas_to_dnet.com
$ @sys$examples:aag_acas_to_tcp.com
```

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Of course, you must have a valid TCP/IP implementation installed and configured, including a proper HOSTS database. If you had already configured @aGlance/IT on this system, and on client systems, then you must change the DECnet node names to TCP/IP hostnames with the AAG_Admin program, and/or with the @aGlance/IT Admin utility on Windows-based clients.

In order to switch the network transport selection on Version 2 systems, you must shut down ObjectBroker, create an up-to-date, editable version of the Context Object, modify the resulting Context Object Definition file, re-initialize the Context Object, and restart ObjectBroker.

```
$ @SYS$MANAGER:ACAS$SHUTDOWN
$ SET DEF ACAS$LIBRARY:
$ APPL/CONT
$ACAS> STOP CTRL
$ACAS> SHOW CONTEXT/CONTEXT=SYSTEM/OUTPUT=AAGSYS.COL
$ACAS> EXIT
$ EDIT AAGSYS.COL
      Change all occurrences of DNET to TCP  (1 AXP, 2 VAX)
      Change ENABLED to DISABLED
  EXIT
$ APPL/CONT
$ACAS> LOAD CONTEXT /CONTEXT=SYSTEM AAGSYS.COL
$ACAS> EXIT
$ @SYS$STARTUP:ACAS$STARTUP
```

NOTE

To switch to TCP/IP, you must modify the @aGlance/IT configuration to accurately specify the full hostnames, with careful attention to upper and lower case.

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Chapter three

UNIX

This chapter explains the installation process on the supported Unix platforms. Except for SCO Unix, the @aGlance/IT installation procedures on the various Unix platforms are identical. ObjectBroker is available on AIX and HP UX. for those who must communicate with Version 2 @aGlance/IT systems. There are several steps in the installation.

1 Modify your network configuration if required, and verify that it is working.

2 If appropriate, install and/or start ObjectBroker

3 Install @aGlance/IT.

4. Configure @aGlance/IT with the aag_admin utility.

5. Verify that the Installation is operational.

Network Configuration

@aGlance/IT requires that TCP/IP be operating correctly. At installation time, all that is required is that your system can communicate with itself, by host name (not IP address). Before attempting to use @aGlance/IT to communicate with other systems, you should verify that you can establish a TCP/IP connection between the systems

Before performing an @aGlance/IT installation, you should first verify that you can ping your own system, and that you can ftp "to yourself". If your hostname is *bythebook*, and your username is *myname*, then you should

```
# ping bythebook

# ftp bythebook
# name myname
# password ******
```

and verify that you can do a directory listing of your account.

If your Unix system will be functioning as an @aGlance/IT client, then you should verify that you can ping and ftp to all the systems that will be running @aGlance/IT servers. Once that is successful, you should verify that from each server you can ping and ftp to your client system.

If your Unix system is an @aGlance/IT server, you should verify that you can ping all potential client systems, and that all clients can ping your system. You should also verify that all the clients systems can ftp to your system. (Most client PC systems do not have ftp servers, so you can't use ftp to test the connection from your server system to PC clients.)

On Unix systems, @aGlance/IT uses the ONC/RPC mechanism that is a part of the Network File System (NFS). You should verify that the portmapper is running. On most Unix systems, the command

```
# rpcinfo -p
```

will reveal the presence of the portmapper on TCP and UDP ports 111.

If any of these tests fail, you should contact your network administrator and correct the problem before installing @aGlance/IT. While it is necessary that you be able to ping between all the systems, the fact that ping works is not sufficient to establish that @aGlance/IT should work. Ping uses the connectionless, universal datagram protocol, while ftp and @aGlance/IT make connections using the transport control protocol.

ObjectBroker

Prior to Version 3, @aGlance/IT only supported ObjectBroker middleware. Thus if you are upgrading an older system, ObjectBroker is probably already present on the system. If you want your new @aGlance/IT installation to

utilitize ObjectBroker, you need only be sure that it is running when you perform the @aGlance/IT Version 3 installation. (Of course, this only applies to Unix systems that were supported before Version 3.)

In Version 3, the only reason for a Unix-based, @aGlance/IT system to use ObjectBroker is to communicate with older @aGlance/IT systems that for some reason cannot be upgraded to Version 3. In fact, if you are upgrading to Version 3, you may wish to remove ObjectBroker before installing @aGlance/IT.

If the script that installs @aGlance/IT finds ObjectBroker installed and running on your system, then @aGlance/IT will be enabled for both ObjectBroker and ONC/RPC, and the existing ObjectBroker configuration files will be read and used to define proxies and permissions for your Version 3 system.

If you are using ObjectBroker for applications other than @aGlance/IT, you should be aware that, aag_admin configuration utility , modifies the System Context Object in /usr/var/adm/acas/.

Distribution Media

ObjectBroker and @aGlance/IT are supplied on separate media. ObjectBroker uses a different format on every Unix, while @aGlance/IT uses tar format media in every case except SCO Open Desktop.

UNIX Variant	ObjectBroker Installation	@aGlance/IT Installation
AIX	installp (SMIT)	shell script
Digital Unix	setld	shell script
HP-UX	update	shell script
IRIX	Not Applicable	shell script
SCO Unix	Not Applicable	custom

Table 3
Distribution Kit Formats

Since device specifications vary from system to system, as well as from Unix to Unix, it is not possible to provide definitive tar command strings. The most common are given below:

UNIX Variant	Media Type	Likely tar command string
AIX*	8mm DAT	tar xvf /dev/rmt0
AIX*	3 ½" FD	tar xvf /dev/fd0h
Digital Unix*	4mm DAT	tar xvf /dev/rmt0
HP-UX	4mm DAT	tar xvf /dev/update.src
IRIX*	3 ½ " FD	tar xvf /dev/rdsk/fds0D0.3.5
SCO	3 ½" FD	Not Applicable. Use *custom* to install

*Substitute SCSI drive number if non zero.

Table 4
Typical tar commands by Platform

@aGlance/IT Installation on AIX

Overview

Follow the instructions at the beginning of the Chapter to verify your network configuration. If required, install or remove ObjectBroker. Copy the @aGlance/IT files from the distribution kit. Follow the instructions in Appendix A for configuring @aGlance/IT proxies and permissions.

Installing ObjectBroker

You should install ObjectBroker if you are doing a fresh installation and if your system must communicate with systems running older versions of @aGlance/IT. If you purchased @aGlance/IT with ObjectBroker, then you received two DAT tapes. If you don't need, or have previously installed ObjectBroker, then you should skip to the next section.

The ObjectBroker installation is carried out by the *installp* utility, which may be invoked directly or using the SMIT utility.

1. Mount the second @aGlance/IT DAT tape (tape 2 of 2) on the appropriate tape drive.

2. Log in as superuser (login name root).

3. Make sure you are at the root directory by entering the following command:

```
# cd /
```

4. Enter an *installp* command that specifies a nondefault source and the device special file name for the drive where the media is mounted. For example, if you load a tape on tape unit 0, enter the following command for installation of the ObjectBroker software:

```
# installp  d /dev/rmt0 acas          (8 mm tape)

# installp -d /dev/fd0 acas           (floppy)
```

The *installp* command initiates the installation procedure, which creates a file called /tmp/update.log. You must examine this file to verify that the installation completed successfully. You should also run the Installation Verification Procedure (IVP). Enter the following command:

```
# /usr/etc/acasivp/acasivp
```

Instructions for administering ObjectBroker may be found in Appendix D.

Removing ObjectBroker

Use the acasmsho command to determine if there are any method servers active, and determine their associated uuids. If so, use the acasmstp command to terminate them. Issue the acasmsho command to determine if the control server is running; if so, issue the acasmstp command to terminate it. Use SMIT to deinstall ObjectBroker. Delete the ObjectBroker databases and log files.

```
# acasmsho
# acasmstp uuid1
# acasmstp uuid2
# acasmsho  c
# acasmstp  c
# smit


# rm -r /usr/adm/acas/*
```

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Installing @aGlance/IT

If you just installed ObjectBroker, or if you are upgrading an existing systems and wish to continue to use ObjectBroker, you must ensure that it is running now. Start the ObjectBroker control server with the command:

```
# /usr/etc/acasstrt
```

Change to super-user and create a temporary directory:

```
%su
Password:
% cd /usr/users/mydir
```

The @aGlance/IT software is stored on the distribution medium as a tape archive. Restore the tape archive into the temporary directory. The @aGlance/IT files will be created under the sub-directory 'aag'. Put the first tape (tape 1) in the drive and enter the following commands:

```
% tar xv                    (8 mm tape)
```

or

```
% tar xf /dev/fd0           (floppy)
```

Change to the 'aag' sub-directory and execute the shell script "InstallKit" to copy the @aGlance/IT files to their destination directories.

```
# cd aag
# InstallKit
```

If the script finds ObjectBroker running, it assumes you are upgrading from an old version of @aGlance/IT and copies the configuration information stored in the System Context Object into the Version 3 configuration file. In addition to preserving your existing proxies and permissions, the new @aGlance/IT installation will be configured for dual middleware operation.

The script will ask if you want to start the name server now. Answer "y" so that you will be able to run the installation verification procedure.

The script will next invoke the @aGlance/IT utility, aag_admin, which allows you to perform a client or a server configuration as appropriate.

For a server, you must create proxies for the clients that will access the server remotely. If your server supports it, you should also configure client permissions at this time. (See your client or server documentation for details.)

For clients, you must identify the node names and platform types all the nodes on which you may wish to access servers; i.e., if your server normally runs on one node, but may run on a second node if the first one fails, you should define both nodes. Also, if you have multiple servers that run on different nodes, you must define all those nodes at this time.

If you exit immediately from aag_admin, you will still be able to run the installation verification procedure, but remote systems will not be able to communicate with you. Appendix A describes the use of aag_admin in detail.

When the installation is complete, you may remove the temporary directory as follows:

```
# cd /usr/users/mydir
# rm  rf aag
```

System Management

At any time after installing the software, you can test the installation with the Installation Verification Procedure (IVP):

```
# /usr/etc/aag ivp
```

The installation does not modify your system startup scripts. You should change your startup procedure to contain a call to the @aGlance/IT startup script *aagstrt*, found in /usr/etc/aagstrt. If your are using ObjectBroker, the call to aagstrt should be preceded by a call to the startup procedure *acasstrt* also found in /usr/etc.

The startup procedure starts the @aGlance/IT name server, *aagoncd*. If the name server is not running, any attempt to start a server will result in the error condition AAG NONAMESERVER.

If you need to restart @aGlance/IT, you must first shlutdown all active servers and then halt the name server with the procedure /usr/etc/aagstop.

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Once all servers are stopped, you can remove @aGlance/IT from your system by invoking the deinstall shell script as follows:

```
# /usr/etc/aag_deinstall
```

Sample Server and Sample Client

Intuitive Technology supplies a number of servers and clients, mainly for use by software developers. However, if you wish to verify a distributed installation of @aGlance/IT, you can use these programs for testing.

On a server host, change directories and run the sample server program, optionally giving it specific name. On a client system, you can first use the aag_admin program to "show servers" and "show connections", and then run the sample client program to complete the connections.

```
# cd /usr/examples/aag
# ./sample_server FirstServer&
#  /sample_server SecondServer&

# ./sample_client FirstServer
# ./sample_client SecondServer
```

@aGlance/IT Installation on Digital Unix (OSF/1)

Overview

Follow the instructions at the beginning of the Chapter to verify your network configuration. If required, install or remove ObjectBroker. Copy the @aGlance/IT files from the distribution kit. Follow the instructions in Appendix A for configuring @aGlance/IT proxies and permissions.

Installing ObjectBroker

If you just installed ObjectBroker, or if you are upgrading an existing systems and wish to continue to use ObjectBroker, you must ensure that it is running now Start the ObjectBroker control server with the command:

```
# /usr/etc/acasstrt
```

Installing from DAT

1. Mount the second @aGlance/IT DAT tape (tape 2 of 2) on the appropriate tape drive.

2. Log in as superuser (login name root).

3. Make sure you are at the root directory by entering the following command:

```
# cd /
```

4. Enter a *setld* command that specifies the -l (load) function and the device special file name for the tape drive where the distribution tape is loaded. For example, if you load the tape on tape unit 0, you would enter the following command for installation of the ObjectBroker software:

```
# setld  l /dev/rmtoh
```

Installing from CD-ROM

Insert the @aGlance/IT CD-ROM in the drive, mount the file system, and view the release notes.

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```
# mount  r /dev/rz10c /cdrom
# cat /cdrom/readme
```

Use the *setld* command to transfer the appropriate files from the CD-ROM.

```
#setld -l /cdrom/ACAS
```

Common Installation Procedure

After you enter the setld command, the installation procedure displays the names of ObjectBroker subsets and asks you to specify the subsets that you want to load. You should select the Base System, User Interface, and (optionally) the Man Pages subsets, separating each number with a space, not a comma.

Follow the instructions on how to make ObjectBroker available at boot time.

If, during the course of the installation, you encounter errors from the setld utility, see the Diagnostics section of the setld(8) reference page for an explanation of the error and the appropriate action to take.

After the installation completes, you should run the Installation Verification Procedure (IVP). Enter the following command:

```
#  setld -v ACRBASERT210
```

If the verification process fails, you can look in the file /usr/var/adm/verifylog to find information that can help you diagnose the problem.

Removing ObjectBroker

Use the acasmsho command to determine if there are any method servers active, and determine their associated uuids. If so, use the acasmstp command to terminate them. Issue the acasmsho command to determine if the control server is running; if so, issue the acasmstp command to terminate it. Use setld to determine the names of the subsets to delete, then delete those subsets. Delete the ObjectBroker database. Use the license management facility to remove the license.

```
# acasmsho
# acasmstp uuid1
# acasmstp uuid2
# acasmsho -c
# acasmstp  c
# setld  l   grep acas-rt
# setld -d <subsetname>        (for all subsets)
# lmf delete ACAS RT
# lmf unload unlimited ACAS RT
# rm  r /usr/adm/acas/*
```

Installing @aGlance/IT

If you just installed ObjectBroker, or if you are upgrading an existing systems and wish to continue to use ObjectBroker, you must ensure that it is running now. Start the ObjectBroker control server with the command:

```
# /usr/etc/acasstrt
```

Change to super-user and create a temporary directory:

```
%su
Password:
% cd /usr/users/mydir
```

The @aGlance/IT software is stored on the distribution medium as a tape archive. Restore the tape archive into the temporary directory. The @aGlance/IT files will be created under the sub-directory 'aag'. Put the first tape (tape 1) in the drive and enter the following commands:

```
% tar xv                    (4 mm tape)
```

Change to the 'aag' sub-directory and execute the shell script "InstallKit" to copy the @aGlance/IT files to their destination directories.

```
# cd aag
# InstallKit
```

If the script finds ObjectBroker running, it assumes you are upgrading from an old version of @aGlance/IT and copies the configuration information stored in the System Context Object into the Version 3 configuration file. In addition to preserving your existing proxies and permissions, the new @aGlance/IT installation will be configured for dual middleware operation.

The script will ask if you want to start the name server now. Answer "y" so that you will be able to run the installation verification procedure.
The script will next invoke the @aGlance/IT utility, aag_admin, which allows you to perform a client or a server configuration as appropriate.

For a server, you must create proxies for the clients that will access the server remotely. If your server supports it, you should also configure client permissions at this time. (See your client or server documentation for details.)

For clients, you must identify the node names and platform types all the nodes on which you may wish to access servers; i.e., if your server normally runs on one node, but may run on a second node if the first one fails, you should define both nodes. Also, if you have multiple servers that run on different nodes, you must define all those nodes at this time.

If you exit immediately from aag_admin, you will still be able to run the installation verification procedure, but remote systems will not be able to communicate with you. Appendix A describes the use of aag_admin in detail.

When the installation is complete, you may remove the temporary directory as follows:

```
# cd /usr/mydir
# rm -rf aag
```

System Management

At any time after installing the software, you can test the installation with the Installation Verification Procedure (IVP):

```
# /usr/etc/aag_ivp
```

The installation does not modify your system startup scripts. You should change your startup procedure to contain a call to the @aGlance/IT startup script aagstrt, found in /usr/etc/aagstrt. If your are using ObjectBroker, the call to aagstrt should be preceded by a call to its startup procedure acasstrt also found in /usr/etc.

The startup procedure starts the @aGlance/IT name server, aagoncd. If the name server is not running, any attempt to start a server will result in the error condition AAG_NONAMESERVER.

If you need to restart @aGlance/IT, you must first stop the name server with the procedure /usr/etc/aagstop.

You can remove @aGlance/IT from your system by invoking the deinstall shell script as follows:

```
# /usr/etc/aag_deinstall
```

Sample Server and Sample Client

Intuitive Technology supplies a number of servers and clients, mainly for use by software developers. However, if you wish to verify a distributed installation of @aGlance/IT, you can use these programs for testing

On a server host, change directories and run the sample server program, optionally giving it specific name. On a client system, you can first use the aag_admin program to "show servers" and "show connections", and then run the sample client program to complete the connections.

```
# ./cd /usr/examples/aag
# ./sample server FirstServer&
# ./sample_server SecondServer&

# ./sample_client FirstServer
# ./sample client SecondServer
```

@aGlance/IT Installation on HP-UX

Overview

Follow the instructions at the beginning of the Chapter to verify your network configuration. If required, install or remove ObjectBroker. Copy the @aGlance/IT files from the distribution kit. Follow the instructions in Appendix A for configuring @aGlance/IT proxies and permissions.

Installing ObjectBroker

1. Mount the second @aGlance/IT DAT tape (tape 2 of 2) on the appropriate tape drive.

2. Log in as superuser (login name root).

3. Make sure you are at the root directory by entering the following command:

```
# cd /
```

4. Enter an *update* command that specifies a nondefault source and the device special file name for the tape drive where the media is mounted. For example, if you load a tape on tape unit 0, enter the following command for installation of the ObjectBroker software:

```
# update  s /dev/rmt/0m ACAS_RT
```

The default source is /dev/update.src on Series 700 systems, and /dev/rmt/0m on Series 800 systems. The nondefault source can be one of the following:

- Absolute pathname of a local special file representing a DAT tape
- Absolute pathname of a regular file containing an update media image in tar format.
- Hostname of a netdist server system running the netdistd(1M) daemon.

The *update* command initiates the installation procedure, which creates a file called /tmp/update.log. You must examine this file to verify that the installation completed successfully. You should also run the Installation Verification Procedure (IVP). Enter the following command:

```
#  /usr/etc/acasivp/acasivp
```

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Removing ObjectBroker

Use the acasmsho command to determine if there are any method servers active, and determine their associated uuids. If so, use the acasmstp command to terminate them. Issue the acasmsho command to determine if the control server is running; if so, issue the acasmstp command to terminate it. Use rmfn to remove acas (ObjectBroker) Delete the ObjectBroker databases and log files.

```
# acasmsho
# acasmstp uuid1
# acasmstp uuid2
# acasmsho  c
# acasmstp -c
# rmfn


# rm -r /usr/adm/acas/*
```

Installing @aGlance/IT

If you just installed ObjectBroker, or if you are upgrading an existing systems and wish to continue to use ObjectBroker, you must ensure that it is running now. Start the ObjectBroker control server with the command:

```
# /usr/etc/acasstrt
```

Change to super-user and create a temporary directory:

```
%su
Password:
% cd /usr/users/mydir
```

The @aGlance/IT software is stored on the distribution medium as a tape archive. Restore the tape archive into the temporary directory. The @aGlance/IT files will be created under the sub-directory 'aag' Put the first tape (tape 1) in the drive and enter the following commands:

```
% tar xv                    (4 mm tape)
```

Change to the 'aag sub-directory and execute the shell script "InstallKit" to copy the @aGlance/IT files to their destination directories.

```
# cd aag
# InstallKit
```

If the script finds ObjectBroker running, it assumes you are upgrading from an old version of @aGlance/IT and copies the configuration information stored in the System Context Object into the Version 3 configuration file. In addition to preserving your existing proxies and permissions, the new @aGlance/IT installation will be configured for dual middleware operation.

The script will ask if you want to start the name server now. Answer "y" so that you will be able to run the installation verification procedure.
The script will next invoke the @aGlance/IT utility, aag_admin, which allows you to perform a client or a server configuration as appropriate.

For a server, you must create proxies for the clients that will access the server remotely. If your server supports it, you should also configure client permissions at this time. (See your client or server documentation for details.)

For clients, you must identify the node names and platform types all the nodes on which you may wish to access servers; i.e., if your server normally runs on one node, but may run on a second node if the first one fails, you should define both nodes. Also, if you have multiple servers that run on different nodes, you must define all those nodes at this time.

If you exit immediately from aag_admin, you will still be able to run the installation verification procedure, but remote systems will not be able to communicate with you. Appendix A describes the use of aag_admin in detail.

When the installation is complete, you may remove the temporary directory as follows:

```
# cd /usr/mydir
# rm  rf aag
```

System Management

At any time after installing the software, you can test the installation with the Installation Verification Procedure (IVP):

```
# /usr/etc/aag_ivp
```

The installation does not modify your system startup scripts. You should change your startup procedure to contain a call to the @aGlance/IT startup script aagstrt, found in /usr/etc/aagstrt. If your are using ObjectBroker, the call to aagstrt should be preceded by a call to its startup procedure acasstrt also found in /usr/etc.

The startup procedure starts the @aGlance/IT name server, aagoncd If the name server is not running, any attempt to start a server will result in the error condition AAG NONAMESERVER.

If you need to restart @aGlance/IT, you must first stop the name server with the procedure /usr/etc/aagstop.

You can remove @aGlance/IT from your system by invoking the deinstall shell script as follows:

```
# /usr/etc/aag_deinstall
```

Sample Server and Sample Client

Intuitive Technology supplies a number of servers and clients, mainly for use by software developers. However, if you wish to verify a distributed installation of @aGlance/IT, you can use these programs for testing.

On a server host, change directories and run the sample server program, optionally giving it specific name. On a client system, you can first use the aag_admin program to "show servers" and "show connections", and then run the sample client program to complete the connections.

```
# ./cd /usr/examples/aag
# ./sample_server FirstServer&
# ./sample server SecondServer&

# ./sample_client FirstServer
# ./sample client SecondServer
```

23 00 57 04 10 07

@aGlance/IT Installation on IRIX

Overview

Follow the instructions at the beginning of the Chapter to verify your network configuration. Copy the @aGlance/IT files from the distribution kit. Follow the instructions in Appendix A for configuring @aGlance/IT proxies and permissions.

Installing @aGlance/IT

Change to super-user and create a temporary directory:

```
%su
Password:
% cd /usr/users/mydir
```

The @aGlance/IT software is stored on the distribution medium as a tape archive. Restore the tape archive into the temporary directory. The @aGlance/IT files will be created under the sub-directory 'aag'. Put the first tape (tape 1) in the drive and enter the following commands:

```
% tar xv                                    (4 mm tape)
```

or

```
% tar xf /dev/rdsk/fsd0D5.3.5               (floppy)
```

Change to the 'aag' sub-directory and execute the shell script "InstallKit" to copy the @aGlance/IT files to their destination directories.

```
# cd aag
# InstallKit
```

If the script finds ObjectBroker running, it assumes you are upgrading from an old version of @aGlance/IT and copies the configuration information stored in the System Context Object into the Version 3 configuration file. In addition to preserving your existing proxies and permissions, the new @aGlance/IT installation will be configured for dual middleware operation.

The script will ask if you want to start the name server now. Answer "y" so that you will be able to run the installation verification procedure.

The script will next invoke the @aGlance/IT utility, aag_admin, which allows you to perform a client or a server configuration as appropriate.

For a server, you must create proxies for the clients that will access the server remotely. If your server supports it, you should also configure client permissions at this time. (See your client or server documentation for details.)

For clients, you must identify the node names and platform types all the nodes on which you may wish to access servers; i.e., if your server normally runs on one node, but may run on a second node if the first one fails, you should define both nodes. Also, if you have multiple servers that run on different nodes, you must define all those nodes at this time.

If you exit immediately from aag_admin, you will still be able to run the installation verification procedure, but remote systems will not be able to communicate with you. Appendix A describes the use of aag_admin in detail.

When the installation is complete, you may remove the temporary directory as follows:

```
# cd /usr/mydir
# rm  rf aag
```

System Management

At any time after installing the software, you can test the installation with the Installation Verification Procedure (IVP):

```
# /usr/etc/aag_ivp
```

The installation does not modify your system startup scripts. You should change your startup procedure to contain a call to the @aGlance/IT startup script aagstrt, found in /usr/etc/aagstrt. If your are using ObjectBroker, the call to aagstrt should be preceded by a call to its startup procedure acasstrt also found in /usr/etc.

The startup procedure starts the @aGlance/IT name server, aagoncd. If the name server is not running, any attempt to start a server will result in the error condition AAG NONAMESERVER.

If you need to restart @aGlance/IT, you must first stop the name server with the procedure /usr/etc/aagstop.

You can remove @aGlance/IT from your system by invoking the deinstall shell script as follows:

```
# /usr/etc/aag_deinstall
```

Sample Server and Sample Client

Intuitive Technology supplies a number of servers and clients, mainly for use by software developers. However, if you wish to verify a distributed installation of @aGlance/IT, you can use these programs for testing

On a server host, change directories and run the sample server program, optionally giving it specific name. On a client system, you can first use the aag_admin program to "show servers" and "show connections", and then run the sample client program to complete the connections.

```
# cd /usr/examples/aag
# ./sample_server FirstServer&
# ./sample_server SecondServer&

# ./sample_client FirstServer
# ./sample client SecondServer
```

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@aGlance/IT Installation on SCO Unix

Overview

Follow the instructions at the beginning of the Chapter to verify your network configuration. If required, install or remove ObjectBroker. Copy the @aGlance/IT files from the distribution kit. Follow the instructions in Appendix A for configuring @aGlance/IT proxies and permissions.

Installing @aGlance/IT

The distribution floppy is designed for use with the SCO *custom* facility. To install, insert the floppy in the drive, change to the superuser (root) account, and invoke the utility:

```
%su
Password:
custom
```

From the custom main menu, select "Install," then "A New Product" then "Entire Product" and "Continue."

Even though the floppy is already in the drive, custom will ask you to insert it. Simply press Enter. Custom will report

```
Extracting files...
Executing @aGlance/IT [Developer] Kit Init Script
```

Next, custom asks you questions about the name server, which is required if you are to run @aGlance/IT servers on your system.

```
Start @aGlance/IT automatically at boot time? [y] y
Start @aGlance/IT? [y] y
```

Finally, the script gives you the opportunity to run the @aGlance/IT configuration utility, aag_admin, so that you can establish proxies and permissions.

```
Run aag admin now ([yes] or no)? y
```

For a server, you must create proxies for the clients that will access the server remotely. If your server supports it, you should also configure client permissions at this time. (See your client or server documentation for details.)

For clients, you must identify the node names and platform types all the nodes on which you may wish to access servers; i.e., if your server normally runs on one node, but may run on a second node if the first one fails, you should define both nodes. Also, if you have multiple servers that run on different nodes, you must define all those nodes at this time.

When you have completed the configuration and exited from aag_admin, the custom script will prompt for you to press <Enter> to continue, and will check file permissions. Exit custom by choosing "Quit" and "Yes."

Verify the Installation

Execute the installation verification procedure *aagivp* in the /usr/lib/aag directory.

Stopping and Restarting @aGlance/IT

In order to reinitialize the name server, you must first stop it, using /usr/lib/aag/aagstop, and then restart it using /usr/lib/aag/aagstart. Stopping and restarting the name server does not stop any running @aGlance/IT servers, but it does cause the name server to lose track of them, such that new client connect requests will fail. To prevent this situation from occurring accidentally should you run the aagstart script twice in succession, the startup script does not stop the name server.

Sample Server and Sample Client

Intuitive Technology supplies a number of servers and clients, mainly for use by software developers. However, if you wish to verify a distributed installation of @aGlance/IT, you can use these programs for testing.

On a server host, change directories and run the sample server program, optionally giving it specific name. On a client system, you can first use the aag_admin program to "show servers" and "show connections", and then run the sample client program to complete the connections.

```
# cd /usr/lib/aag/examples
# ./sample_server FirstServer&
# ../sample_server SecondServer&

# ./sample_client FirstServer
# ./sample client SecondServer
```

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Chapter four

Windows

This chapter explains how to install @aGlance/IT System Development Kits and Full-Function RunTimes on Windows 95 and Windows NT systems The *@aGlance/IT for Windows User's Guide* explains how to install Standard and Professional Edition client software on Windows

Installing @aGlance/IT on Windows 95

Before installing @aGlance/IT, you must verify that your system is properly configured. Once you have confirmed that the system is ready, you invoke the installation procedure on the distribution medium. After the installation is complete, you run the @aGlance/IT Administration Tool to configure @aGlance/IT

Verifying Your Network Configuration

In order to install @aGlance/IT, your Windows95 system must be properly configured for TCP/IP networking. This means that the hostnames of your computer and of all other systems with which @aGlance/IT will communicate are mapped to Internet Protocol (IP) addresses for your system.

In small networks, these definitions are made in the *hosts* file, typically found in the C:\WINDOWS directory In larger networks, hostname are frequently resolved through communication with a name server (DNS), or are dynamically established at the time the system is booted via a Windows NT-based, DHCP server. You can determine how your system is configured by examining the attributes of your TCP/IP via the Windows TCP/IP configuration program.

From the task bar, select Start.Run winipcfg, and click More Info>>

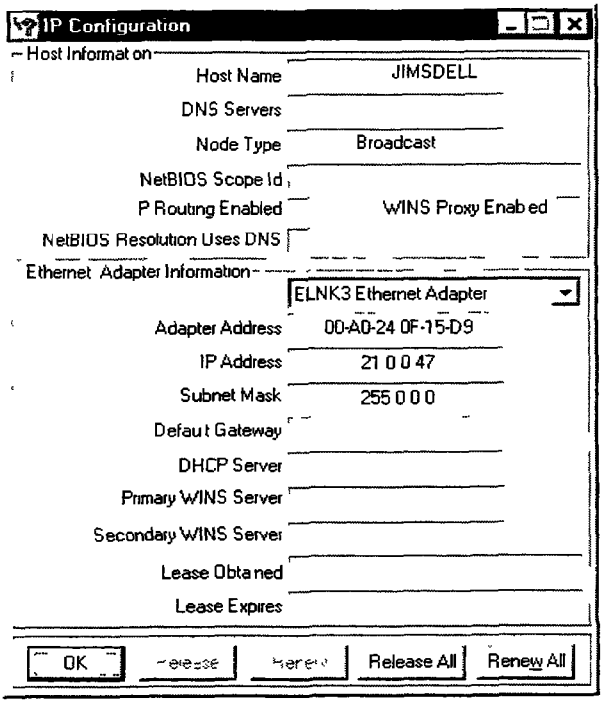

Figure 5
Displaying Your Win95 TCP/IP Configuraitons

Note the hostname and IP address of your system, and verify that you can communicate with yourself. For example; you should verify that the hostname of your Windows95 system and the hostnames of all the clients you expect to serve are defined. The easiest way is to use the TCP/IP utility *ping* that is supplied with Windows 95. Open an MS-DOS window (Start.Programs.MS-DOS Prompt) and attempt to ping yourself and all hostnames with which you will communicate. If you receive the error message "bad ip address", you should consult your network administrator before attempting to install @aGlance/IT.

If you will be communicating with Windows NT, Unix, or OpenVMS systems, you should also verify that you can access those systems with another Windows 95 TCP/IP utility program, *ftp*. Ping assures you that there is a mapping between hostnames and ip addresses, and that you can contact the systems using the universal datagram protocol (UDP). @aGlance/IT and ftp use the transport control protocol (TCP). You should not attempt to install @aGlance/IT if you can't establish ftp connections.

(Windows 95 and Windows 3.xx can only act as ftp clients. Unlike Windows NT, Unix, and OpenVMS, the Microsoft TCP/IP implementations for Windows 95 and Windows for Workgroups do not include an ftp server daemon.)

Installing @aGlance/IT

Put the distribution diskette in the drive. From Start, choose Settings, Control Panel, Add/Remove Programs. Click the Install/Uninstall tab, and click install. Windows will find SETUP.EXE on the diskette. Click Finish. The installation procedure asks which directory to put the software in and then asks to modify your AUTOEXEC.BAT. You should allow it to do so. The installation procedure create the program group shown in Figure 6 below.

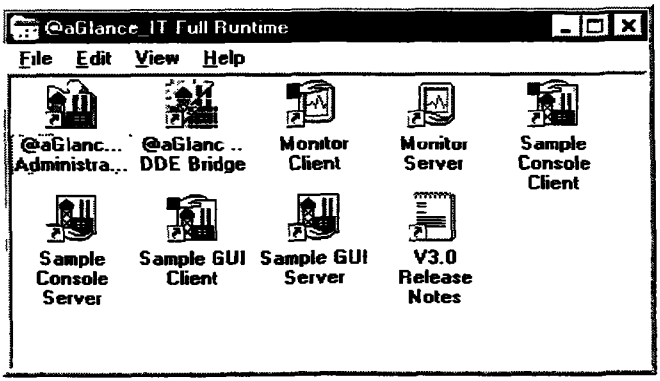

Figure 6
The @aGlance/IT Program Group

You should immediately double click on the Release Notes icon, and use Note Pad (Word Pad) to read and print the contents. The Release Notes reflect changes made after this document was printed, and may include work arounds for problems.

Next double click on the @aGlance_IT Administration icon to configure your @aGlance/IT software. (Alternatively, you can invoke the tool from the task bar via Start.Programs.@aGlance_IT .Full Runtime or Developer's Kit@aGlance_IT Administration.)

Installing on Windows NT V3.5x

Before installing @aGlance/IT, you must verify that your system is properly configured. Once you have confirmed that the system is ready, you invoke the installation procedure on the distribution medium. After the installation is complete, you use the @aGlance/IT Administration Tool to configure @aGlance/IT.

Verifying Your Network Configuration

In order to install @aGlance/IT, your Windows NT system must be properly configured for TCP/IP networking. This means that the hostnames of your computer and of all other systems with which @aGlance/IT will communicate are mapped to Internet Protocol (IP) addresses for your system.

In small networks, these definitions are made in the *hosts* file, typically found in the C:\WINDOWS directory. In larger networks, hostname are frequently resolved through communication with a name server (DNS), or are dynamically established at the time the system is booted via a Windows NT-based, DHCP server. You can determine how your system is configured by running the *ipconfig* program. From an MS-DOS prompt, enter

```
c:\windows>ipconfig/all
```

You should verify that the hostname of your Windows NT system and the hostnames of all the clients you expect to serve are defined. The easiest way is to use the TCP/IP utility *ping* that is supplied with Windows NT. Open an MS-DOS window and attempt to ping yourself and all hostnames with which you will communicate. If you receive the error message "bad ip address", you should consult your network administrator before attempting to install @aGlance/IT.

Ping assures that you that there is a mapping between hostnames and ip addresses, and that you can contact the systems using the universal datagram protocol (UDP).

Another Windows NT TCP/IP utility program, *ftp* can provide further assurance that your network is properly configured. Unlike ping, both @aGlance/IT and ftp use the transport control protocol (TCP). Your should first always verify that you can ftp "to yourself", and that all the client systems can ftp to your system. If you will be communicating with other Windows NT, Unix, or

OpenVMS systems, you should also verify that you can access those systems from your system.

(Windows 95 and Windows 3.xx can only act as ftp clients. Unlike Windows NT, Unix, and OpenVMS, the Microsoft TCP/IP implementations for Windows 95 and Windows for Workgroups do not include an ftp server daemon.)

You should not attempt to install @aGlance/IT if you can't establish ftp connections.

Installing @aGlance/IT on Windows NT

Put the distribution diskette in the drive. Insert the distribution diskette in the drive, and in File Manager's File menu, select Run and type a:\setup.exe. The installation procedure asks which directory to put the software in, and then asks to modify your AUTOEXEC.BAT. You should allow it to do so, or use the System applet in Control Panel to put the @aGlance/IT directory on the system Path. The installation procedure creates the program group shown in Figure 6.

You should immediately double click on the Release Notes icon, and use Note Pad to read and print the contents. The Release Notes reflect changes made after this document was printed, and may include work arounds for problems.

Next double click on the @aGlance_IT Administration icon to configure your @aGlance/IT software.

Using the @aGlance/IT Administration Tool

The administration tool has three principle uses:

- On server systems, it configures the proxies and permissions that control access to the @aGlance/IT servers and their functions, and to the @aGlance/IT system management functions.
- On client systems, it defines those remote systems on which servers might be found, and, for dual middleware client systems, it defines which middleware should be used when contacting each host.
- It provides for the management of servers and sessions, notably allowing the removal of "dangling sessions", which may result from an abrupt client termination.

Some servers implement proxies, some implement permissions, and some implement both proxies and permissions. There are three different ways a server may use proxies. The naming of permissions is completely unique to a particular server. You must consult the documentation supplied with your server in order to carry out the definition of proxies and permission successfully.

A client may have different privileges and proxies on each system with which it communicates. The client will have the same privileges for all @aGlance/IT servers on any specific system. If a server normally runs on one system, but occasionally failsover to another, you would have the same proxies and permission on the two systems. If you have multiple server systems because they are in different areas of the plant, then you would probably establish different proxies and permissions on the various systems.

Defining Proxies on Windows Servers

As described in Chapter 1, client access to @aGlance/IT servers running on your system is controlled based upon the local system account with which the client is associated. The designated local account is said to be a *proxy* for the client; the client is *proxied* to the local account

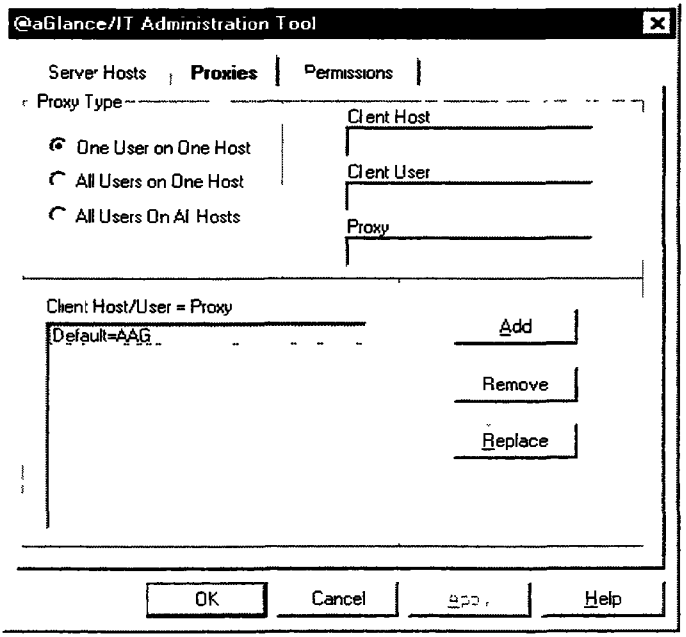

Figure 7
Defining Proxies on Windows

Server providers have flexibility in the way they define their server's behavior with regard to proxies. You should consult your provider's documentation to find their suggestions for establishing security.

If the server is programmed for ALL_ACCESS, then you can use proxies to control which clients have administrative privilege on your system. All clients

whose proxy is the same as the username under which you are running the server(s) will be able to list and stop connections, and stop the server(s).

If the server is programmed for PRIV_ACCESS, then only users may be proxied to the username that is running the servers will be able to access the servers.

@aGlance/IT installation sets up a default proxy of AAG, and gives it all administrative permissions. If you do not change these settings, then all clients will be able to list and stop connections, and stop servers on your system. Typically, you would delete the default proxy, and assign the AAG proxy to the administrator for the server(s).

You must consult the documentation supplied with your server to determine if it initializes itself for open access, or for privileged access only.

Defining Permissions on Windows Servers

Having established proxies as recommended by your server provider, you must again consult the server documentation to ascertain their use of permissions. If the appropriate proxies are not enabled, @aGlance/IT will not even notify a server of a client's request to establish a connection to the server. However, each server provider determines which client requests are protected by permissions, and determines the actual names of the permissions. This section explains how to manage permissions on your server host.

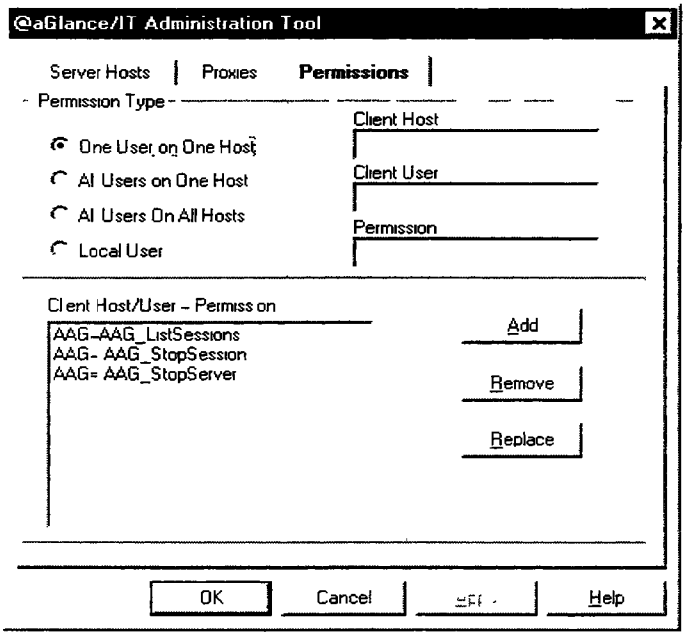

Figure 8
Setting Permissions on Windows Systems

With @aGlance/IT Version 3, you have two ways to manage permissions. You can base permissions on the local (proxy) accounts described in the previous section. Alternatively, you can assign permissions based on the clients, just as

you did with proxies. In other words, you can make the assignment of permissions to clients completely dependent upon the way proxies are defined, or you can make the assignment totally independent of the proxy assignments. To make permissions correspond directly with proxies, set the Permission Type to Local, and define the local user ids that are the same as the ones the clients are proxied in to. Otherwise, the default, local, and specific Permission Types work just as the corresponding Proxies do. That is, all clients will receive the Default Permission, all users on the specified client system will receive Host Permission; and only a particular account on the client system will be granted the Specific Permission.

Intuitive uses three permissions to determine the network management privileges of each client. After installation, these permissions are assigned to the AAG account (UID). The @aGlance/IT installation does not create the AAG account, so you must either define such a user, or add the same permissions to an account that does exist.

Note that Administration Tool is implemented as an @aGlance/IT client. If a client user is has proxied access to a server system, it will be able to view all the servers running on that system, and will be able to view all connections that belong to that client.

If a client has the AAG_ListSession permission, then the client can use AAG_Admin to view *all* sessions on that server system. If a client has the AAG_StopSession permission, then the client can both view and stop all sessions to servers on that system, regardless of which client originated the session. If a PC crashes, or if there is a network outage, you may be left with a "dangling session" on a server. If that server is licensed for concurrent access, you will want to remove such sessions to prevent "Session not Available" error messages.

A client with the AAG_StopServer permission can stop all servers on the system where the client is granted the permission. Note that your server provider may require that you use a different procedure for stopping their server.

Managing Servers and Sessions on Windows

This section demonstrates the use of aag_admin to view servers and sessions. You can only examine servers and sessions that are defined in your list of server hosts, as shown in the preceding section. AAG_Admin is handled as a client application: as a client, you must have the appropriate proxy and permissions defined on the server host you will be viewing, as described in previous sections.

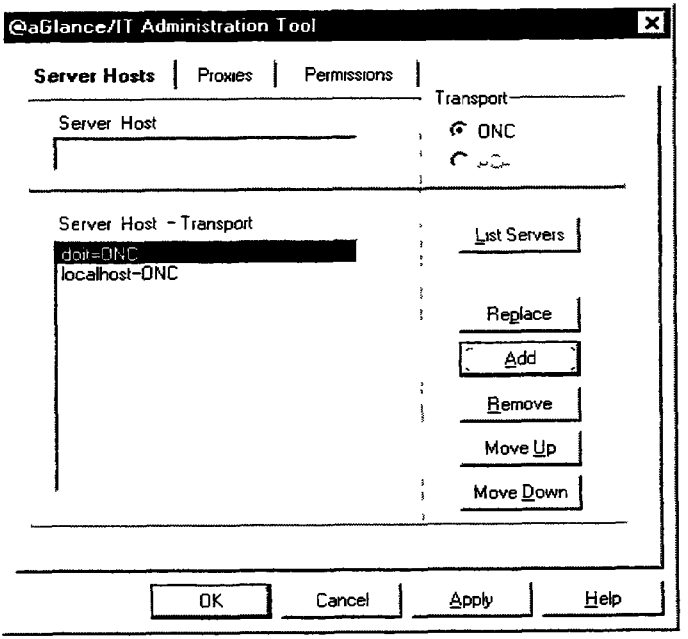

Figure 9
Managing Servers and Sessions on Windows

In Figure 9, a server host name, doit, was entered in the text box, and then Added to the list of server hosts. Selecting doit in the list box, and clicking on List Servers, results in the dialog box in Figure 10 below.

The Administration Tool shows that there are three servers currently running on the server host, doit. While this example demonstrates the management of a remote server host, it would have worked the same for servers running locally.

At this point, depending upon the (@aGlance/IT administrative) permissions that are set up on doit, you could either list the sessions associated with each server, or terminate the servers.

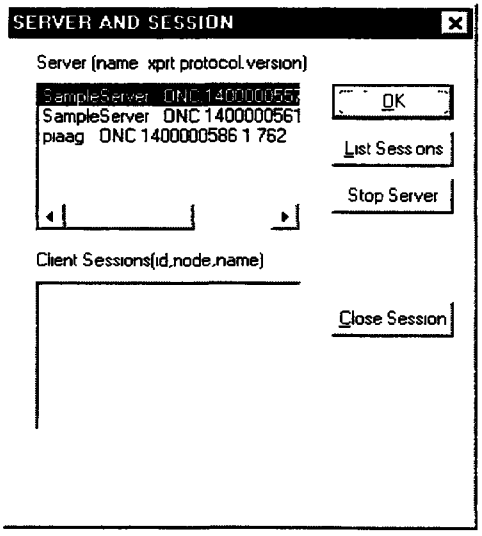

Figure 10
Displaying Servers on Windows

The dialog box show in Figure 11 below displays the result of a list servers command specifying the first server shown.

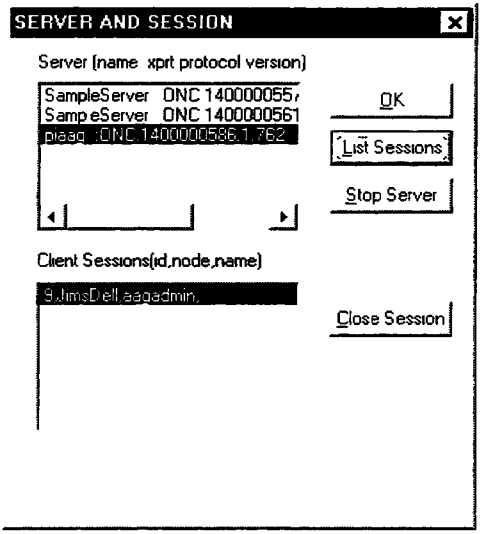

Figure 11
Listing Sessions on Windows

Appendix A

Using Aag_Admin on Unix and OpenVMS

This appendix explains how to configure @aGlance/IT on OpenVMS and Unix systems, using the @aGlance/IT administration utility program. On OpenVMS systems, the AAG Admin program may be found in the SYS$SYSTEM directory. On Unix systems, the aag_admin program is located in /usr/etc (/usr/bin on SCO Unix.)

The administration utility has three principle uses:

- On server systems, it configures the proxies and permissions that control access to the @aGlance/IT servers and their functions, and to the @aGlance/IT system management functions.
- On client systems, it defines those remote systems on which servers might be found and, for dual middleware client systems, it defines which middleware should be used when contacting each host.
- It provides for the management of servers and sessions, notably allowing the removal of "dangling sessions", which may result from an abrupt client termination

For the needs of the @aGlance/IT user, this tool completely obviates the need to configure ObjectBroker. If you're using ObjectBroker on your system for other purposes as well, you'll find that AAG Admin modifies the System Context Object.

Preparing Unix and OpenVMS Servers for Client Access

To enable clients to access servers processes on your system, you must define proxies and permissions for the clients. Run aag_admin and choose Server Setup.

```
@aGlance/IT Administration

  1 Client Setup            (edit server host list)
  2 Server Setup            (edit client access)
  3 Servers and Sessions    (manage running servers)
  4 Save Changes
  5 Exit

 [2]




  Use up/down arrow or numbers to make a selection.
  Press <Enter> or spacebar to act on the selection.
  Press 'E' to exit, and 'H  for help.
```

Figure 12
Enabling Client Access

Some servers implement proxies, some implement permissions, and some implement both proxies and permissions. There are two ways a server may use proxies. The naming of permissions is completely unique to a particular server. You must consult the documentation supplied with your server in order to carry out the definition of proxies and permission successfully.

A client may have different permissions and proxies on each server system with which it communicates. The client will have the same privileges for all @aGlance/IT servers on any specific system. If a server normally runs on one system, but occasionally fails over to another, you would have the same proxies and permission on the two systems. If you have multiple server systems because they are in different areas of the plant, then you would probably establish different proxies and permissions on the various systems.

Setting Up Proxies

As described in Chapter 1, client access to @aGlance/IT servers running on your system is controlled based upon the local system account with which the client is associated. The designated local account is said to be a *proxy* for the client; the client is *proxied* to the local account

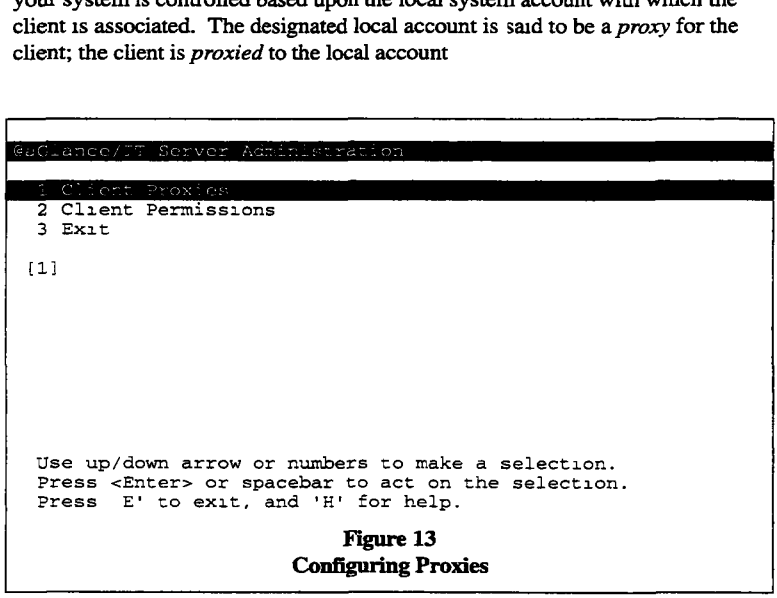

Figure 13
Configuring Proxies

Server providers have flexibility in the way they define their server's behavior with regard to proxies. You should consult your provider's documentation to find their suggestions for establishing security.

If the server is programmed for ALL_ACCESS, then you need only create a proxy that specifies a valid username on your system.

If the server is programmed for PRIV_ACCESS, then users may be proxied to an account with high privilege (SYSTEM on OpenVMS, root on Unix), or they may be proxied into the account under which the server will be run.

On OpenVMS, the server probably has a startup command file that is launched by the operating system's startup file. Usually, the server would then be running from the system account. Similarly, on Unix, it is customary to run startup scripts from the superuser (root) account (UID=0).

OpenVMS servers may be started with a RUN command that specifies a UIC, or it may be started from some account other than SYSTEM. If your server process is already running, you can use the SHOW SYSTEM command to obtain the server's process id, and then use SHOW PROCESS/ID= to determine the name and UIC of the account.

On Unix systems, the *ps* (process status) command can be used to determine the UID for your server process.

```
@aGlance/IT Client Proxies

   1 Default: AAG




  H: Help      E: Exit          Use the up/down arrows or type a
  A: Append    N: Next Page     number and <Enter> to move.
  I: Insert    P: Prev Page
  D: Delete    +: Push Down
                : Push Up
```

Figure 14
@aGlance/IT Default Proxy

@aGlance/IT installation sets up a default proxy to the AAG account, but does not create the account. You must either create the account, or delete the proxy and add a new one. (Consult your operating system documentation for information on adding an account, or ask your system manager.)

To get started, it is simplest to establish a default proxy account that has maximum privilege. On OpenVMS systems this is SYSTEM, while on Unix it is root. Consult your server documentation for information on setting up a system with enhanced security.

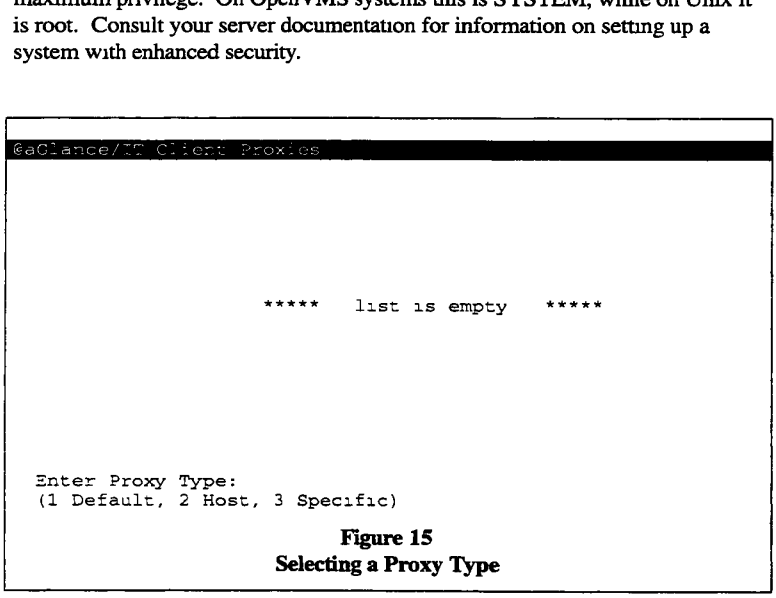

Figure 15
Selecting a Proxy Type

Simply delete the AAG default, and then add a new default specifying the system or root user.

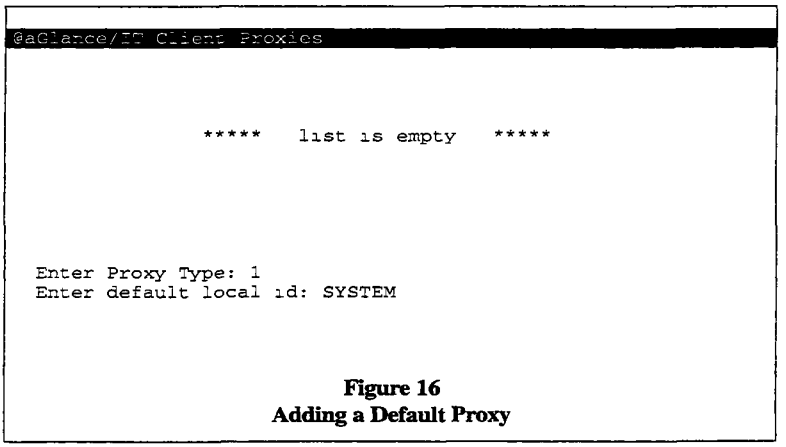

Figure 16
Adding a Default Proxy

You could also add a proxy for all users on a given host, which is particularly useful for single user systems such as Windows 3.x and Macintosh, or for a specific user on a particular node.

```
@aGlance/IT Client Proxies

   1 Default: system









  Enter Proxy Type: 2
  Enter default local id for host  JimsDell
  trusted
```

Figure 17
Adding a Proxy for All Users on a Remote System

You can create a distinct proxy for each specific user on multi-user systems such as Unix and OpenVMS, as well as Windows NT and Windows95.

```
@aGlance/IT Client Proxies

   1 Default: system
   2 Default for host  JimsDell': trusted









  Enter Proxy Type: 3
  Enter local id for host  doit  user  cummings
  AAG
```

Figure 18
Adding a Proxy for a Specific Remote User

On multi-user client systems, including Windows NT and Windows95, you may establish different proxies for each user.

Setting Client Permissions

Once you have established one or more proxy accounts, you are ready to define permissions Each server provider implements different permissions, so you must consult your provider to determine the names and meanings of the permissions their server uses.

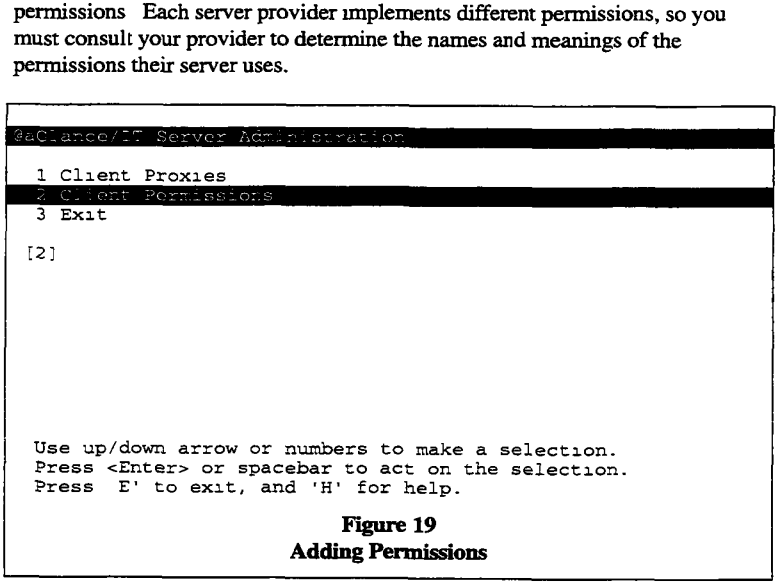

Figure 19
Adding Permissions

With @aGlance/IT Version 3, you have two ways to manage permissions. You can base permissions on the local (proxy) accounts described in the previous section. Alternatively, you can assign permissions based on the clients, just as you did with proxies. In other words, you can make the assignment of permissions to clients completely dependent upon the way proxies are defined, or you can make the assignment totally independent of the proxy assignments.

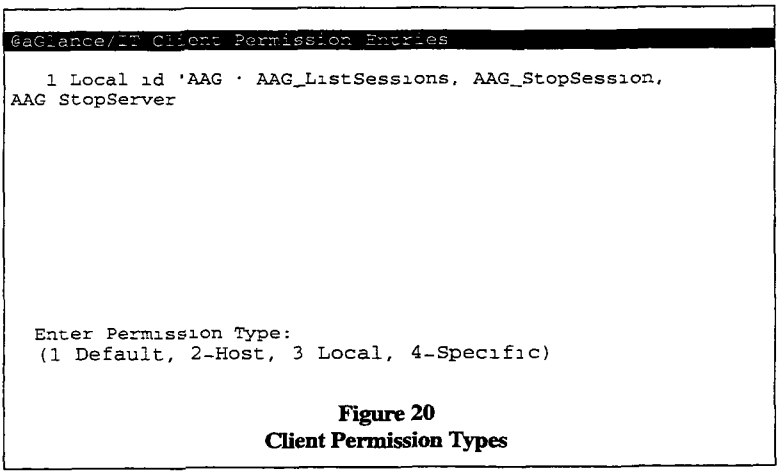

Figure 20
Client Permission Types

To make permissions correspond directly with proxies, set the Permission Type to Local, and define the local user ids that are the same as the ones the clients are proxied in to. Otherwise, the default, local, and specific Permission Types work just as the corresponding Proxies do. That is, all clients will receive the Default Permission, all users on the specified client system will receive Host Permission; and only a particular account on the client system will be granted the Specific Permission.

Intuitive uses three permissions to determine the network management privileges of each client. After installation, these permissions are assigned to the AAG account (UID). The @aGlance/IT installation does not create the AAG account, so you must either define such a user, or add the same permissions to an account that does exist.

```
@aGlance/IT Client Permission Entries

   1 Local id  AAG': AAG_ListSessions, AAC StopSession,
AAG StopServer

  H: Help      E: Exit          Use the up/down arrows or type a
  A: Append    N: Next Page     number and <Enter> to move.  Press
  I: Insert    P: Prev Page     the spacebar to edit an entry's
  D: Delete    +: Push Down     permissions as a list.
               : Push Up
```

Figure 21
Default Permissions

Note that AAG_Admin is implemented as an @aGlance/IT client. If a client user has proxied access to a server system, it will be able to view all the servers running on that system, and will be able to view all connections that belong to that client.

If a client has the AAG_ListSession permission, then the client can use AAG_Admin to view *all* sessions on that server system. If a client has the AAG_StopSession permission, then the client can both view and stop all sessions to servers on that system, regardless of which client originated the session. If a PC crashes, or if there is a network outage, you may be left with a "dangling session" on a server. If that server is licensed for concurrent access, you will want to remove such sessions to prevent "Session not Available" error messages.

A client with the AAG_StopServer permission can stop all servers on the system where the client is granted the permission. Note that your server provider may require that you use a different procedure for stopping their server.

Preparing Unix and OpenVMS Clients

Before an application on an @aGlance/IT client system can connect to an @aGlance/IT server application across your network, the client must know which other systems to contact when looking for the specified server application. If your client is configured for both ONC/RPC and ObjectBroker middleware, then you must specify which one should be used to communicate with each server node.

```
@aGlance/IT Administration

  1 Client Setup          (edit server host list)
  2 Server Setup          (edit client access)
  3 Servers and Sessions  (manage running servers)
  4 Save Changes
  5 Exit

[1]

 Use up/down arrow or numbers to make a selection.
 Press <Enter> or spacebar to act on the selection.
 Press 'E  to exit, and 'H' for help.
```

Figure 22
Client Setup

This function is performed for clients, to identify and characterize the nodes on which they wish to be able to access servers. Note that servers identify themselves to @aGlance/IT at run time, and that client applications specify the names of the servers to which they wish to communicate at run time. When a client issues a request to talk to a server application, these are the nodes where @aGlance/IT will look for it.

Choose *Append*, and specify either a DECnet node name or a TCP/IP host name. You are prompted to specify the type of middleware.

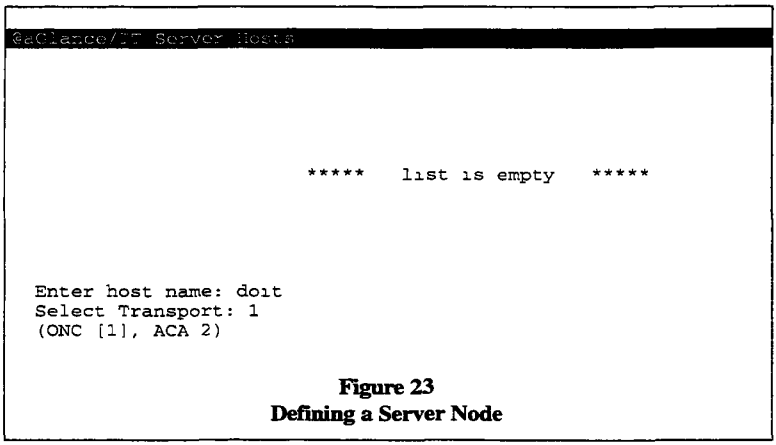

Figure 23
Defining a Server Node

Managing Servers and Sessions

This section demonstrates the use of aag_admin to view servers and sessions. You can only examine servers and sessions that are defined in your list of server hosts, as shown in the preceding section. AAG_Admin is handled as a client application: as a client, you must have the appropriate proxy and permissions defined on the server host you will be viewing., as described in previous sections.

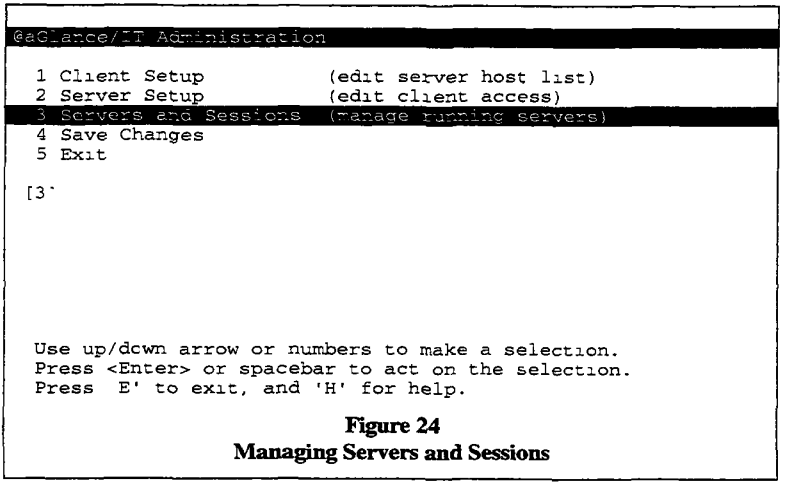

Figure 24
Managing Servers and Sessions

Select *Servers and Sessions* to see a list of the server hosts defined on this system.

23 01 29 04/10/07

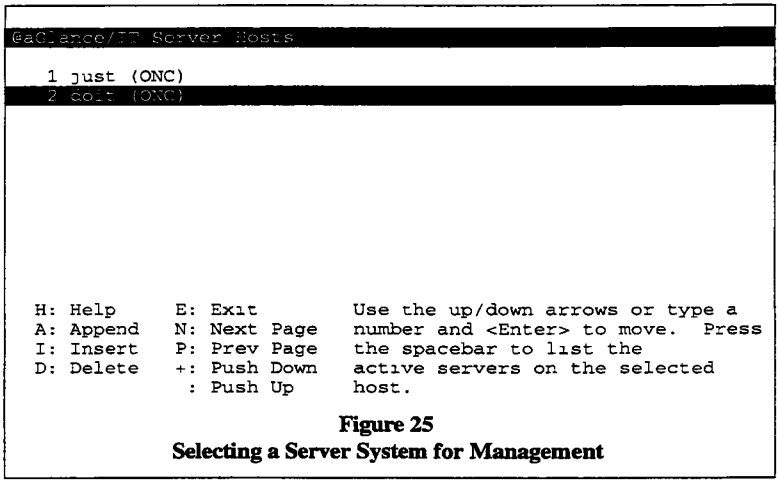

Figure 25
Selecting a Server System for Management

In the example above, a server system is selected. Press the spacebar to obtain information about the server system named *doit*.

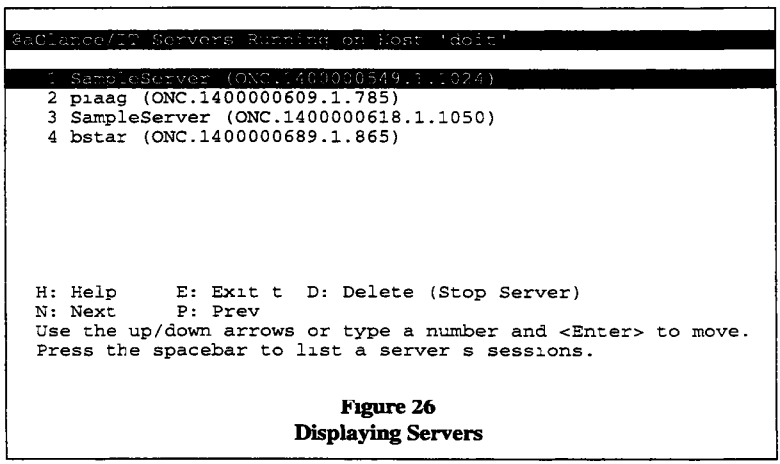

Figure 26
Displaying Servers

There are four servers running on doit. Select the server named *SampleServer*, and press the spacebar to obtain more information.

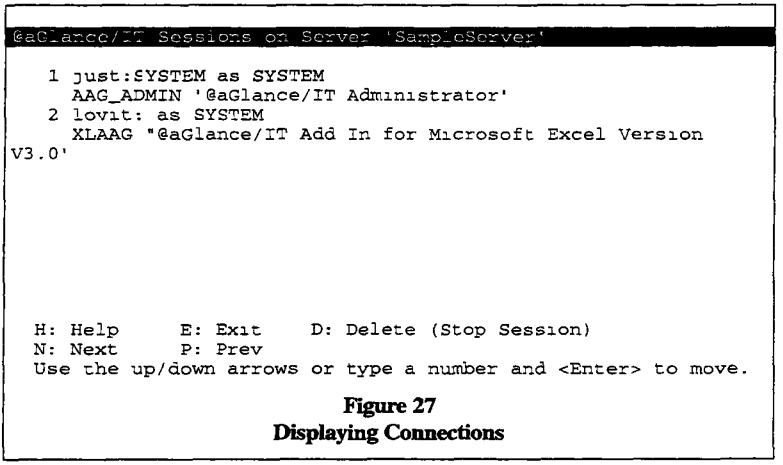

Figure 27
Displaying Connections

The first connection shown is to the copy of aag_admin being used to view the connections. The second connection shows an Excel Addin, running on node loveit, connected to SampleServer on doit.

Appendix B

Sample Installations

This appendix contains printouts from typical installations and a successful run of the Installation Verification Procedure

Running the @aGlance/IT IVP on OpenVMS

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```
Installation Verification Procedure for @aGlance/IT V3.0
Spawning server subprocess...
%DCL S SPAWNED, process AAG_IVP spawned
@aGlance/IT Test Server: AAG$IVP
@aGlance/IT Test Client
Test client calling GetTags
Server starting session 1, just::SYSTEM (remote), AAG (local)
        Client name: TestClient
        Client desc: Test Client
        Client version: V3.0 27
Now 1 active session(s)
Client Get Tags results.
        FLOW
        LEVEL
        PRESS
        TEMP
        YIELD
Test client calling GetAttrs
Client Get Attrs results:
        APV
        DESC
        RANGEHI
        RANGELO
        ALMST
Test client calling PutList
Test client calling GetList
Client Get List results:
        FLOW.APV    123.456000
        LEVEL.DESC    Test PutList
        PRESS.RANGEHI    123
        TEMP.RANGELO    321
        YIELD.ALMST    0
Test client calling PutTable
Test client calling GetTable
Client Get Table results:
APV     DESC                RANGEHI RANGELO ALMST
FLOW.     1 0(    Test PutTable    0       0       1
LEVEL·    2 0(    Test PutTable    100     10      1
PRESS·    3 0(    Test PutTable    200     20      1
TEMP.     4.0(    Test PutTable    300     30      1
YIELD:    5.0(    Test PutTable    400     40      1
Test client calling GetHistory
Client Get History results:
Time    FLOW APV
0         1 0(
1         1 0(
2         1 0(
3         1 0(
4         1.0(
Test client calling PutHistory
Test client requesting  server shutdown
Server shutdown requested
1 active sessions
Server shutdown in progress
Server ending session 1
Now 0 active session(s)
Test Server finish
%AAG S IVPSUCC, The @aGlance/IT IVP has successfully completed.
        Installation of AAGDEV V3.0 completed at 21:03
        VMSINSTAL procedure done at 21:03
```

Installing @aGlance/IT on OpenVMS without ObjectBroker

```
@sys$update vmsinstal aagdev030 sys$update
        OpenVMS VAX Software Product Installation Procedure V6.0
It is 15 OCT 1995 at 21:00.
Enter a question mark (?) at any time for help.
* Are you satisfied with the backup of your system disk [YES]? y
The following products will be processed
  AAGDEV V3 0
        Beginning installation of AAGDEV V3.0 at 21.00
%VMSINSTAL I RESTORE, Restoring product save set A .
%VMSINSTAL I RELMOVED, Product s release notes have been moved to
SYS$HELP.
Copyright (©) Intuitive Technology Corporation, 1995
All Rights Reserved.
Installation procedure for @aGlance/IT V3 0 27 System Developer s Kit
* Do you want to purge files replaced by this installation [YES]? y
* Do you want to run the IVP after the installation [YES]?
+                              ----                              +

  No additional questions will be asked.

+                        -    --                                --+
%VMSINSTAL I SYSDIR, This product creates system directory
[SYSHLP.EXAMPLES.AAG]

%VMSINSTAL I RESTORE, Restoring product save set B ...
%AAGDEV I CFGONC, A UCX compatible TCP/IP package was found
 AAGDEV I CFGONC, @aGlance/IT will use TCP/IP as a transport
%AAGDEV I CFGACANOT, ACAS V2.1 is not installed or not running
 AAGDEV I CFGACANOT, @aGlance/IT will not use DECnet as a transport
%VMSINST AL I MOVEFILES, Files will now be moved to their target
directories ..
    +          ------ --  --                                      +

        Starting @aGlance/IT...

    +     -   -          -     -  -   -                 -- +
Starting the @aGlance/IT Name Server
%RUN S PROC ID, identification of created process is 000000A0
    +     -     -  ----    - -                  -- -      +

        The @aGlance/IT IVP will now be invoked....

    +         -         -         -   -                   +
```

Installing ObjectBroker on OpenVMS

```
$ SHOW DEF
  SYS$SYSROOT:[SYSMGR]
  -    SYS$SYSROOT [SYSMGR]
       SYS$COMMON.[SYSMGR]
$@SYS$UPDATE:VMSINSTAL ACASRTO021 SYS$SYSROOT:[ACASKIT]
        OpenVMS VAX Software Product Installation Procedure V6.0
It is 15 OCT 1995 at 23:20
Enter a question mark (?) at any time for help.
* Are you satisfied with the backup of your system disk [YES]? Y
The following products will be processed:
  ACASRTO V2 1
        Beginning installation of ACASRTO V2 1 at 23.22
%VMSINSTAL I RESTORE, Restoring product save set A ..
%VMSINSTAL  I RELMOVED, Product's release notes have been moved to
SYS$HELP
******************************************************************************
                  DEC ACA Services for VMS, V2.1
                   Copyright (c) 1990, 1991, 1992 by
              Digital Equipment Corporation, Maynard, MA
                        All Rights Reserved.
******************************************************************************
******************************************************************************
    Installation will take between 10 and 20 minutes depending
    on installation device  .
******************************************************************************
    One of the following transports can be installed as the default:
            DECnet
            TCP/IP
* Enter the name of transport to be enabled [DECnet]· DECNET
%ACASRTO I AUTHSET, Authentication will be ENABLED.
* Do you want to purge files replaced by this installation [YES]? Y
* Do you want to run the IVP after the installation [YES]? Y
* Enter a disk device to create an ACA Services directory on
[SYS$COMMON:]·
%VMSINSTAL I SYSDIR, This product creates system directory [ACAS]
    If you intend to execute this layered product on other nodes in your
    VAXcluster, and you have the appropriate software license, you must
    prepare the system specific roots on the other nodes by issuing the
    following command on each node (using a suitably privileged account)
        $ CREATE /DIRECTORY
SYS$SPECIFIC.[ACAS]/PROTECTION (S:RWED,O:RWED,G.RE,W
:RE)
%VMSINSTAL I SYSDIR, This product creates system disk directory
VMI$SPECIFIC:[A
CAS.SAK].
%VMSINSTAL I SYSDIR, This product creates system disk directory
VMI$SPECIFIC.[A
CAS.SCRATCH].
%VMSINSTAL I SYSDIR, This product creates system disk directory
VMI$SPECIFIC.[A
CAS.SAK.JUST].
%VMSINSTAL I SYSDIR, This product creates system disk directory
VMI$SPECIFIC [A
CAS.SCRATCH JUST].
%VMSINSTAL I SYSDIR, This product creates system disk directory
VMI$ROOT:[SYSTE
ST.ACAS]
%VMSINSTAL I SYSDIR, This product creates system disk directory
VMI$ROOT:[SYSHL
P.EXAMPLES ACAS]
```

```
%VMSINSTAL ] ACCOUNT, This installation adds an identifier named
ACAS$MANAGER.
%UAF I RDBADDMSG, identifier ACAS$MANAGER value: %X80010008 added to
rights data
 base
*******************************************************************************
        This installation will add the following files
*******************************************************************************
        SYS$COMMON.[SYSEXE]ACAS$CMD EXE
        SYS$COMMON·[SYSEXE]ACAS$CTRL.EXE
        SYS$COMMON.[SYSEXE]ACAS$SCRS EXE
        SYS$COMMON.[SYSEXE]ACAS$DDEBROKER.EXE
        SYS$COMMON·[SYSLIB]ACAS$SHR EXE
        SYS$COMMON.[SYSLIB]ACAS$CMDSHR EXE
        SYS$COMMON:[SYSLIB]ACAS$PRVSHR EXE
        SYS$COMMON:[SYSLIB]ACAS$ANT_ACA.EXE
        SYS$COMMON:[SYSLIB]ACAS$TRN_DNET.EXE
        SYS$COMMON:[SYSLIB]ACAS$TRN_TCP EXE
        SYS$COMMON:[SYSLIB]ACAS$UID_DNET.EXE
        SYS$COMMON:[SYSLIB]ACAS$UID TCP EXE
        SYS$COMMON:[SYSLIB]ACAS$SEC_ADN.EXE
        SYS$COMMON:[SYSLIB]ACAS$DDESHR.EXE
        SYS$COMMON:[SYSLIB]ACASWDSP.OBJ
        SYS$COMMON:[SYSLIB]ACAS.ENV

SYS$COMMON: SYSMSG]ACAS$MSG.EXE
        SYS$COMMON.[SYS$STARTUP]ACAS$STARTUP.COM
        SYS$COMMON·[SYS$STARTUP]ACAS$STARTUP DDE COM
        SYS$COMMON:[SYSMGR]ACAS$SHUTDOWN.COM
        SYS$COMMON:[SYSMGR]ACAS$SHUTDOWN DDE.COM
        SYS$COMMON·[SYSMGR]ACAS$DEINSTALL.COM
        SYS$COMMON·[SYSMGR]ACAS$ADD_CLUSTER_NODE.COM
        SYS$COMMON [SYSTEST]ACAS$IVP COM
        SYS$COMMON [SYSTEST.ACAS]ACAS_IVP.COL
        SYS$COMMON [SYSTEST.ACAS]ACAS IVP CRL
        SYS$COMMON:[SYSTEST.ACAS]ACAS_IVPCLNT.C
        SYS$COMMON·[SYSTEST.ACAS]ACAS IVPSRV.C
        SYS$COMMON:[SYSTEST ACAS]ACAS_IVPDISP.C
        SYS$COMMON:[SYSTEST ACAS]ACAS IVPCLNT.EXE
        SYS$COMMON:[SYSTEST.ACAS]ACAS_IVPSRV.EXE
        SYS$COMMON:[SYSHLP]ACAS$HELP HLB
        SYS$COMMON.[SYSHLP]ACAS$INSTALL_GUIDE 021 TXT
        SYS$COMMON.[SYSHLP.EXAMPLES.ACAS]ACAS$WIN.EXE
        SYS$COMMON:[SYSHLP.EXAMPLES.ACAS]ACAS$WIN_UID UID
        ACAS$LIBRARY:ACASOBJ.CRL
        ACAS$LIBRARY ACASSC.CRL
        ACAS$LIBRARY:ACASDDE.CRL
        ACAS$LIBRARY:ACASSYS COL
%ACASRTO I DONEASK, No further questions will be asked during this
installation.
%VMSINSTAL I RESTORE, Restoring product save set B    .
*******************************************************************************
        NOTE   Please be sure to review the ACA Services release notes
        NOTE   An LSE environment file for ACA Services as part of this
               installation.  Define the environment variable
LSE$ENVIRONMENT
               to have a value of SYS$LIBRARY.ACAS.ENV to enable its use
*******************************************************************************
%VMSINSTAL [ MOVEFILES, Files will now be moved to their target
directories...
Starting ACA Services Control Server
%RUN S PROC ID, identification of created process is 000000A6
*******************************************************************************
    About to execute the Installation Verification Procedure.
```

```
    If error messages are displayed, take any necessary corr
    action and re run the IVP

Verification will take between 5 and 10 minutes depending on
    CPU type
**********************************************************************
**********************************************************************
        Beginning Installation Verification Procedure for
                DEC ACA Services for VMS, V2.1
**********************************************************************
**********************************************************************
Showing the ACA Services control server..
Control Server on node: JUST
 Version:                ACAS V2.1-00
 Username:               system
 Time Started:           Sun Oct 15 23:48.03 1995
 Pid:                    A6
 Log Filename:           SYS$SPECIFIC:[ACAS.SCRATCH JUST]ACASCTRL.LOG;1
 Attributes:             Authentication is ENABLED
                         Active transports are DNET
                         ACA style Control server
Creating the user context object...
Creating the object repository...
Running a method server in the background. .
%RUN S PROC_ID, identification of created process is 000000AA
Method Servers on node JUST.
Method Server Name                  Username        Status
ACAS METHOD.IVP METHOD SERVER       system          Executing
    inst UUID:      14b8eda2ca4.0c-00.00.00 00.00 00 00   Pid: AA
    Class UUID:     1f.10.2f.00.00.00
$ACAS I CMD NUMMSRVSFND, 1 servers found
Running a client as. 'ACAS IVP Server'
    Registered at. Mon Oct 16 00:15-29 1995
    Maximum Sessions.    1    Current Sessions.    0
    4e74efe600f7.02.10
**********************************************************************
        Installation Verification Procedure successfully completed for
                DEC ACA Services for VMS, V2.1
**********************************************************************
```

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Installing @aGlance/IT on OpenVMS with ObjectBroker

```
@SYS$UPDATE VMSINSTAL AAGRT030 SYS$UPDATE
        OpenVMS VAX Software Product Installation Procedure V6.0
It is 16 OCT 1995 at 01:03
Enter a question mark (?) at any time for help.
* Are you satisfied with the backup of your system disk [YES]? Y
The following products will be processed
  AAGRT V3.0
        Beginning installation of AAGRT V3.0 at 01:03
%VMSINSTAL-I RESTORE, Restoring product save set A .
%VMSINSTAL-I RELMOVED, Product s release notes have been moved to
SYS$HELP.
Copyright (©) Intuitive Technology Corporation, 1995
All Rights Reserved.
Installation procedure for @aGlance/IT V3.0-14 Full Function Runtime Kit
* Do you want to purge files replaced by this installation [YES]? Y
* Do you want to run the IVP after the installation [YES]? N
+                                                                    +

  No additional questions will be asked.

+--                                                                  +
%VMSINSTAL-I SYSDIR, This product creates system directory
[SYSHLP.EXAMPLES.AAG]
.
%VMSINSTAL I RESTORE, Restoring product save set B  ..
%AAGRT I CFGONC, A UCX compatible TCP/IP package was found
 AAGRT I CFGONC, @aGlance/IT will use TCP/IP as a transport
%AAGRT I CFGACA, ACAS V2 1 is installed and running
 AAGRT I CFGACA, @aGlance/IT will use DECnet as a transport
%AAGRT I CFGACACTX, Extracting information from ACAS context object
%AAGRT I ADDACADEF, @aGlance/IT ACAS Class Definitions will be installed
 AAGRT I ADDACADEF, in file SYS$COMMON [ACAS]AAGOBJ.CR
%VMSINSTAL I MOVEFILES, Files will now be moved to their target
directories...
        Installation of AAGRT V3.0 completed at 01 10
        VMSINSTAL procedure done at 01.10
```

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Appendix C

OpenVMS ObjectBroker Commands

This section contains VMS system commands used to manage ObjectBroker To use these commands, you must first invoke the ObjectBroker command interpreter by entering

```
$ APPLICATION/CONTROL
```

The system responds with a prompt:

```
$ACAS>
```

and you can enter the commands shown on the following pages

LOAD CONTEXT OBJECT

Loads the specified context object definition file into a context object. The context object definitions are represented using the Context Object Definition Language.

Parameters

ctx file name
The name of the file containing the context object definitions.

Qualifier:

/CONTEXT_OBJECT=USER|GROUP|SYSTEM
If you specify system, the context object file is ACAS SYSTEM CONTEXT. The default is USER

/ADD
Indicates that the specified context object definition file is to be added to an existing context object. If a table or an attribute specified in the definition file already exists in the context object, then those definitions are replaced by the ones in the definition file. If a table or an attribute does not already exist, it is added to the context object.

/LIST=[filename]
The name of the file to receive the listing output. The listing file will contain the lines of the definition file with any corresponding errors.

SHOW CONTEXT OBJECT

Shows the contents of the specified context object. The output is in the Context Object Language (COL) format so that it can be reloaded using the **LOAD CONTEXT_OBJECT** command.

Parameters

None

Qualifier:

/CONTEXT_OBJECT=USER|GROUP|SYSTEM
If you specify system, the context object file is ACAS_SYSTEM CONTEXT. The default isUSER

/ADD
Indicates that the specified context object definition file is to be added to an existing context object. If a table or an attribute specified in the definition file already exists in the context object, then those definitions are replaced by the ones in the definition file. If a table or an attribute does not already exist, it is added to the context object.

/OUTPUT=[filename]
The file specification for a file in which to write the context object definition. The default is standard output.

SHOW CTRL_SERVER

Displays information about the ObjectBroker control server on the specified node. The information includes the following:

- Indication of whether the control server is running or not
- The version of ObjectBroker it is running
- The time that the control server was started
- The user name under which the control server is running
- The pid of the control server process
- The file name of the control server log
- The state of authentication
- The transport that is active
- Whether debug information is generated when method servers are started

Qualifier:

/NODE=server-node
The node on which the control server of interest is running. The default is the node on which the command is issued.

SHOW SERVERS

Displays a list of method servers registered with ObjectBroker. By default, the method servers on the local node are listed.

The following information is displayed for each method server that matches the selection criteria:

- Name and class UUID
- User name under which the process is executing
- Process identification
- Status of the server (Executing, Process Died, Unknown)
- The time the server called AAG_ServerInit, and the name it registered.
- Maximum number of sessions and number of current sessions

The following additional information is also displayed for each method server if the current user has the ACAS$MANAGER right identifier on the servicing node, or if the method server was started by the current user:

- Server instance UUID
- List of sessions with the server. For each session, the session id, the remote node name, and the remote user id is displayed.

Parameters

method-server-name
Optional name of a method server to display. If not specified, all method servers are displayed.

Qualifiers

/OUTPUT=filename
The file specification for a file in which to write the list of method servers.

/USER=username
The user name whose method servers are to be displayed. The default is to show all method servers for all users.

/NODE=server-node
The node whose method servers are to be displayed. The default is to show method servers that are running on the current node.

/INSTANCE_UNIQUE__IDENTIFIER=instance-uuid
The instance unique identifier of the method server to display.

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STOP CTRL_SERVER

Stops the ObjectBroker control server on the specified node. The user must have the ACAS$MANAGER rights identifier or WORLD privilege to execute this command.

Qualifiers

/NODE=nodename
The node on which the control server is running. The default is the local node.

STOP SERVER_PROCESS

Stops an active method server process on the specified node. A privileged user (a user having the ACAS$MANAGER right identifier) can stop any method server. A nonprivileged user can stop only those method servers owned by that user.

Unless /ABORT is specified, server is entered at its Shutdown callback. This allows the (@aGlance/IT) method server to release any resources it is using and to perform any necessary cleanup. Upon completion of the Shutdown routine, the method server process is unregistered and deleted.

Parameter

server-instance-uuid
The instance UUID of the method server to be stopped. The instance UUID can be retrieved by using the SHOW SERVER_PROCESS command. This parameter must be specified unless the /PURGE qualifier is specified.

Qualifiers

/NODE=nodename
The node on which the method server process can be found. The default is the local node.

/ABORT
The control server unregisters the server and then deletes the method server process.

/UNREGISTER
The control server on the specified node unregisters the specified method server. The method server is no longer available to @aGlance/IT clients.

/PURGE
The control server on the specified node updates its list of registered method servers, removing those servers whose process no longer exists or those that are no longer registered. This is especially useful if a server process was terminated using $STOP/ID=pid. The *server-instance-uuid* parameter cannot be specified when using this qualifier.

STOP SESSION

Stops a session of a method server on the specified node. A user with the ACAS$MANAGER right identifier or WORLD privilege can stop any session. A nonprivileged user can stop only those sessions owned by that user.

Parameters

server-instance-uuid
The instance UUID of the method server whose session is to be stopped. The instance UUID can be retrieved using the SHOW SERVERS command.

session-id
The session identifier of the session to be stopped. The session ID can be retrieved using the SHOW SERVERS command. Sessions are numbered sequentially, starting with 1.

Qualifier

/NODE=nodename
The node on which the method server is running. The default is the local node.

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Appendix D

UNIX ObjectBroker Commands

This section explains how to determine the status of your @aGlance/IT servers, the status of your ObjectBroker control server, how to get rid of servers that terminated abnormally, and how to stop individual sessions

acasmsho

Displays a list of method servers registered with ObjectBroker. By default, the method servers on the local node are listed.

The following information is displayed for each method server that matches the selection criteria:

- Name and class UUID
- User name under which the process is executing
- Process identification
- Status of the server (Executing, Process Died, Unknown)
- The time the server called AAG ServerInit, and the name it registered.
- Maximum number of sessions and number of current sessions

The following additional information is displayed for each method server if the current user is in the root account, or if the method server was started by the current user:

- Server instance UUID
- List of sessions with the server. For each session, the session id, the remote node name, and the remote user id is displayed.

Format

acasmsho [switches] [method-server name]

Parameters

method-server-name
Optional name of a method server to display. If not specified, all method servers are displayed.

Switches

-o filename
The file specification for a file in which to write the list of method servers.

-u username
The user name whose method servers are to be displayed. The default is to show all method servers for all users.

-n node
The node whose method servers are to be displayed. The default is to show method servers that are running on the current node. If the **-c** switch is specified, then information about the control server on this node will be displayed.

-i instance-uuid
The instance unique identifier of the method server to display.

-c
Displays information about the ObjectBroker control server on the specified node. The information includes the following:

- Indication of whether the control server is running or not
- The version of ObjectBroker it is running
- The time that the control server was started
- The user name under which the control server is running
- The pid of the control server process
- The file name of the control server log
- The state of authentication
- The transport that is active
- Whether debug information is generated when method servers are started

acasmstp

Stops an active server process on the specified node, or terminates a session with the specified server. A privileged user (a user in the root account) can stop any server or session. A nonprivileged user can stop only those servers started by that user (or sessions on those servers).

If a method server is being stopped and the **-a** switch is not specified, then @aGlance/IT server is entered at its Shutdown callback. This allows the server to release any resources it is using and to perform any necessary cleanup. Upon completion of the Shutdown routine, the method server process is unregistered and deleted.

Format

acasmstp [switches] [server instance uuid]
acasmstp [n] -s [switches] server instaance-uuid session id
acasmstp [n] -c
acasmstp [-n] p

Parameters

[server-instance-uuid]
The instance universal unique identifier (UUID) of the method server to be affected. The instance UUID can be retrieved by using the acasmsho command. This parameter must be specified unless the u or -c switch is specified.

[session-id]
This parameter is valid only when the -s switch is specified. If the -s switch is specified. this parameter must also be present. The session-id parameter is the session identifier of the session to be stopped, which can be determined by using the acasmsho command.

Switches

-c
Stops the control server on the specified node. The user must be in the root account to use this switch. The -n switch is the only option that can be used in conjunction with the -c switch.

-s
Stops a sesssion of a method server on the specified node. The n switch is the only option that can be used in conjunction with the -s switch.

-n server-node
Specifies the node on which the server (method or control) is to be found. The default is the current node.

-a
Causes the control server to unregister the method server and delete the method server process without invoking the Shutdown callback. This switch cannot be used in conjunction with either the -s or the -c switch.

-u
The control server on the specified node unregisters the specified method server. The method server is no longer available through @aGlance/IT. This switch cannot be used with either the -s or the -c switch.

-p
The control server on the specified node purges its list of registered method servers, removing those servers whose process no longer exists. The *server-instance-uuid* parameter cannot be specified when using this switch. This switch cannot be used with either the -s or the -c switch.

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