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Global System Manager (Windows NT) Thin Client Option

The recent repackaging of Global System Manager (Windows NT) described in Global Technical Bulletin GT846 includes a new Thin Client option that can be used to improve the performance of Global System Manager (Windows NT) on some network configurations. The Thin Client option is fully described in section 5.2 of version V8.1h (Oct-1997) of the Global System Manager V8.1 Notes (MSMNV8.1). This bulletin contains an extract from document MSMNV8.1.

In addition to providing a full description of the Thin Client option, this bulletin also describes a number of issues with Global System Manager (Windows NT) screen handling, including the procedure that should be followed to change to default Global System Manager (Windows NT) `look-and-feel' to a Global System Manager (MS-DOS) `look-and-feel'.

Thin Client Overview

For BACNAT variants V2.2, and later, a new console controller, NETWORK, has been implemented to allow between 1 and 99 `thin clients' to be connected via a TCP/IP telnet protocol to a Global Client. The `thin client' terminal emulator must be the Global Windows Workstation (GUI) operating in `TCP/IP external host' mode. A `thin client' configuration will provide a considerable performance improvement over the traditional LAN `fat-client' configuration on low-bandwidth wide-area networks; for example, on an extended network using the Windows NT Remote Access Service (RAS).

A `thin-client' configuration will also outperform a `fat-client' configuration on certain local area network configurations (i.e. when the power of the NT Server relative to the number of users is high).

The terms `fat client' and `thin client' are best described by reference to a simple network consisting of a single `server' and one, or more, `workstations'. In the `fat client' paradigm the Global Server process (i.e. GLSERVER.EXE) runs on the server; a separate `single-user' Global Client process (i.e. GLOBAL.EXE) runs on each of the workstations (the Global Clients are termed `single-user' because each configuration file includes a single GUI console controller). All processing is performed **locally** on each workstation. All access to shared files involves a **network** RPC request from the Global Client to the Global Server.

In the `thin client' paradigm both the Global Server (i.e. GLSERVER.EXE) and a

`multi-user' Global Client (i.e GLOBAL.EXE) run on the server (the Global Client is termed `multi-user' because one, or more, NETWORK console controllers (see below) augment, or replace, the GUI console controller). Each workstation runs the Global Windows Workstation (GUI) to provide a network terminal emulator connecting to a TCP/IP socket created by the NETWORK console controller. All processing is performed **centrally** on the server. All access to shared files involves a **local** RPC request from the Global Client to the Global Server.

Any combination of `fat client' and `thin client' is possible. On a complex network configuration some workstations run the Global Client (i.e. GLOBAL.EXE) in `fat client' mode while other workstations run the Global Windows Workstation (i.e. GSMWIN.EXE) in `thin client' mode. Furthermore, although a standard `thin client' configuration will include a GUI console in addition to one, or more, NETWORK consoles, the GUI console is not mandatory and can be removed thus allowing the GLOBAL.EXE process to effectively run as a `background terminal server'. Note that if the GUI console controller is removed from the Global Client configuration file an empty Global window will still appear (change the properties of the Program Item/Shortcut to automatically run the Global Client minimised).

Further Optimisations for Thin-Client Only configurations

Disk access in a `thin client' only configuration can be improved by using the local RPC protocol (i.e. ncalrpc) instead of a network RPC protocol (e.g. ncacn_ip_tcp). This will maximise the data transfer rate between the Global Client and the Global Server running on the server computer. However, this option will prevent the Global Server from being accessed by any `fat clients' running on other computers on the network.

Disk access in a `thin client' only configuration can be further improved by configuring a `local DDF' on the Global Client. Direct disk access from the Global Client is always faster than the RPC interface between a Global Client and Global Server. However, this option will also prevent the central data from being accessed by any `fat clients' running on other computers on the network (i.e. the Global Client running on the server cannot provide the server functionality to other Global Clients on the network).

Adding a Thin-Client Console to a Standard Configuration

The Jan-98 revision of the Global System Manager (Windows NT) Configuration Notes (C5660) explains how to add one, or more, `thin-clients' to a standard `fat-client' configuration.

Note that no extra Global Windows Workstation (GUI) licences are required for Global System Manager (Windows NT) configurations. An `infinite' GUI licence is inherent in all Global System Manager (Windows NT) configurations.

Converting a Fat Client Configuration to Thin Client

The Jan-98 revision of the Global System Manager (Windows NT) Configuration Notes (C5660) explains how to configure a standard Global System Manager (Windows NT) `fat client' configuration into a `thin client' configuration.

Using Global-2000 Applications on Global System Manager (Windows NT)

The Jan-98 revision of the Global System Manager (Windows NT) Configuration Notes (C5660) describes some issues involved when using Global 2000 applications on Global System Manager (Windows NT).