**Tech Note 390**

InTouch® NAD and Slow Networks: Reduce Startup Time and Network Bandwidth Consumption by Configuring a NAD Proxy

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**Introduction**

This Tech Note outlines how to reduce network utilization in a NAD environment by configuring one of the InTouch NAD-Clients to behave as a NAD-Proxy.

**Issue**

Publishing an application change in a typical NAD-Master \ NAD-Client configuration causes all NAD-Clients accessing the NAD-Master to receive the application updates. This operation reduces the available bandwidth and consumes it for long periods of time.

The following figure shows a typical NAD Change Update operation:

![Figure 1: Typical NAD Change Update](image)

**Solution**

To reduce the network utilization we can configure one of the InTouch NAD-Clients (which resides in the remote area) to behave as a **NAD-Proxy**.

A NAD-Proxy serves as a NAD-Client that accepts the application changes from the NAD-Master and then notifies the NAD-Clients on its local network of the application changes.

The following figure shows a typical NAD Change Update operation using a node configured as a NAD-Proxy:
NAD Configuration for NAD Proxy

Node A: NAD-Master

1. The NAD-Master Folder has to be shared (e.g. Application Directory as C:\App\NADMaster).

Node B: NAD-Client\NAD-Proxy

1. Configure the NAD-Client \ NAD-Proxy as a NAD-Client of the NAD-Master folder.

   For example: The Local Working Directory as C:\App\NadClient and Application Directory as C:\NodeA\NADMaster.

2. Share the NAD-Client \ NAD-Proxy folder.

   For example: Share the (NAD-Proxy) application directory as (e.g. C:\App\NADClient).


   In this example, the Load Changes into WindowViewer option is selected (Figure 3 below):
Other NAD-Clients Nodes:

1. Configure all other NAD-Clients to be NAD-Clients of the \textbf{NAD-Proxy} folder.

   For example: The Local Working Directory as \texttt{C:\App\NADClient} and Application Directory as \texttt{\\NodeB\NADClient}.

2. Select a \textbf{Change Mode} of your choice in the Node Properties/Change Mode area.

\section*{Scripting}

Add the following Data Change script \textit{into} the NAD Master application. This script updates the .\texttt{fsm} file on the NAD Proxy and sends the application updates out to the NAD-Clients. The NAD-Master will not be affected by this script as the NAD-Master's $ApplicationChanged tag is never updated. Note that this script will only actually execute on the \textbf{NAD-Proxy} node:

\textbf{Tagname: \$ApplicationChanged}

\begin{verbatim}
If \$ApplicationChanged==0 THEN

   If InfoInTouchAppDir()<>"" THEN

      FileWriteMessage( InfoInTouchAppDir() +"\appchngd.fsm", 0,"ApplicationChanged", 0 );

   Endif;

Endif;
\end{verbatim}

\textbf{Note} The tag $ApplicationChanged is set to 1 when a NAD-Client detects that the file \texttt{appchngd.fsm} on the Master-NAD has a new time stamp and resets itself to 0 (zero) when the application update is complete. Please refer to the InTouch NAD online help for additional
information regarding this process.

Monitor NAD Updates

Wonderware suggests monitoring the $ApplicationChanged tag to indicate when the NAD-Proxy and NAD-Client updates are taking place. For example, set a display link's visibility or a pop-up window to show when $ApplicationChanged = 1.

NAD-Related Documents

Please refer to the following documents for additional information and settings:

**Tech Note 256**: Using Network Application Development (NAD) with InTouch

**Tech Note 360**: Overcoming NAD-Related Errors

**Tech Note 380**: InTouch HMI® NAD and Slow Networks: How to Reduce Initial Startup Time and Network Usage by Preventing the Copy of the Full Application (v7.x and higher)

The InTouchUG.pdf: Chapter 5, Building a Distributed Application.

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