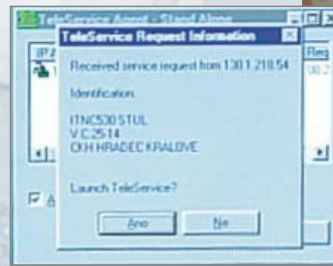


## REMOTE DIAGNOSTICS



TOS VARNSDORF a. s., a manufacturer of horizontal milling and boring machines and machining centers, offers in addition to its products also a system of services intended for permanent support of its customers.

TOSwide service allows to perform a remote diagnostics between the machines of TOS VARNSDORF a. s. make equipped with TNC control system of HEIDENHAIN company and a remote-diagnostics workstation equipped with PC (with operating system ranging from Windows 95 to XP) and appropriate software. The TOSwide service is a modern tool for increase in labour productivity, enabling to diagnose all machine functions (PLC) and conditionally also those of the control system, for example it makes it possible to check active MP parameters of the system.

Precise identification of a machine and/or system failure, if any, is an effective tool for prompt and successful service intervention. Thus the TOSwide serves not only directly to the customer (upon request from an operator) but is also an auxiliary tool for company service centre in a process of communication with the customer.



### BASIC DESCRIPTION OF TOSwide

A technical means of the above service is a remote-diagnostics workstation fitted with HEIDENHAIN TeleService software. The workstation linked with the machine control system is connected to the Internet. In its basic configuration is the workstation located at the manufacturers site (in case of in-house modification of the TOSwide service at customers site the internal network of the customer can be made use of). The TOSwide is offered for those machines produced by TOS VARNSDORF a. s. that are provided with TNC 426 (min. NC. 280 476 xx), TNC 430 (min. NC. 280 476 xx) or iTNC 530 control system.

### POSSIBILITIES OF TOSwide

By means of the TeleService program probable reason of a failure can be determined, variable PLCs can be viewed, drives and measuring diagnosed and BACKUP and LOGBOOK of the control system created. At the remote-diagnostics workstation is installed a TeleService Agent resident program, automatically taking requests from machine operator for connection with the TeleService software.

Basic tools of the TeleService software by means of which activities as needed

can be done at the remote-diagnostics workstation are as follows: connection configuration, display of current screen of the connected TNC control system, display of the keyboard to control the connected TNC control system, TNCremonNT utility for data transmission between the PC and the TNC, TNCexplorer utility to display the current status of PLC, window of drives and measuring diagnostics, WinCMD utility (system dialog window - analogy to the function DOS "Command prompt" in Windows).

### NETWORK CONNECTION

An independent connection of TeleService operator at the remote-diagnostics workstation is through network connection which can be accomplished in the following ways:

- **INTERCONNECTION BY MEANS OF AN ANALOG TELEPHONE LINE** - a modem connected to the machine control system at customers site, communicates with the network by means of a telephone line (private branch exchange or a local provider).
- **INTERCONNECTION BY MEANS OF AN ISDN TELEPHONE LINE** - a modem connected to the machine control system at customers site, communicates with the network by means of an ISDN telephone line or an ISDN private branch exchange.
- **INTERCONNECTION BY MEANS OF AN ISDN ROUTER** - an ISDN router at customers site, an ISDN telephone line or an ISDN private branch exchange. The control system is connected with the customer internal network.
- **INTERCONNECTION BY MEANS OF TCP/IP PROTOCOL (INTERNET)** - the customer is connected to the Internet via a fixed line (router, firewall). The control system of the machine is connected with the customer internal network.

