The following is from the Niagara^{AX} Help System:

PLATFORM SERVICE TYPES

In addition to the SystemService found under its property sheet, the PlatformServicesContainer has various child services, of which different types are listed below.

Some platform services are intended to support installations where all configuration must be done using only a browser connection (and not Workbench connected to a JACE's platform daemon). Examples include types TcpIpService and LicenseService.

The complete list of visible platform service types is as follows:

- **TcpIpService**
  Provides access to the same configuration using the platform's TCP/IP Configuration view.

- **LicenseService**
  Provides access to the same configuration using the platform's License Manager view.

- **SerialPortService**
  Allows review of available serial ports on the host platform. For QNX-based JACEs with configurable serial ports (e.g. JACE-403), this is where you configure port usage. For a related procedure, see "JACE serial port configuration" in the JACE NiagaraAX Install & Startup Guide.

- **PowerMonitorService**
  Currently applies to QNX-based JACEs, providing configuration and status of the JACE's battery monitoring and AC power-fail shutdown routines. See JACE power monitoring for details. This service also applies to some JACE-NXS models; see JACE-NXS power monitoring.

- **DialupService**
  Provides status of the platform's dialup daemon and allows "blockout" of dialup functions from station logic, if desired. For details, see About the dialup daemon and service.

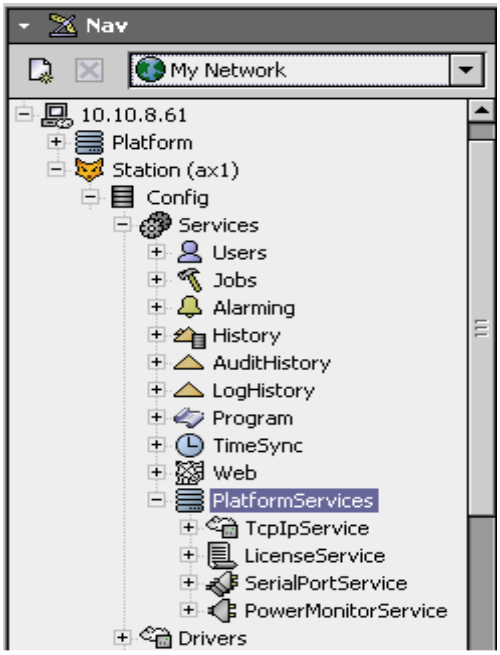
- **HardwareMonitorService**
  Applies to JACE-NXS or JACE-NX station only. Provides status of several internal environmental variables, including alarm limit configuration. See JACE-NX hardware monitoring and JACE-NXS hardware monitoring for details.

ABOUT PLATFORM SERVICES

This section explains the platform access available in a running station--in other words, the station's perspective on its host platform. Unlike the various platform views, a platform connection is not needed to access platform services. Instead, you need only a standard station (Fox) connection.

Platform services do not provide the full set of functions available in Workbench as when you have a platform connection. For example, you cannot install or upgrade software, or transfer stations and files. However, a number of important configuration views for the platform are made available under a station's PlatformServices.

Under the *Config* > *Services* container, every running NiagaraAX station has a PlatformServices container:



PlatformServices is different from all other components in a station in the following ways:

- It acts as the station interface to specifics about the host platform (whether JACE or a PC).
- It is built dynamically at station runtime--you do not see PlatformServices in an offline station.

- Any changes you make to PlatformServices or its child services are not stored in the station database. Instead, changes are stored in other files on the host platform, such as its platform.bog file.

NOTE: Do not attempt to edit platform.bog directly; always use PlatformServices' views!

NOTE: When engineering station security, be careful about assigning user permissions to PlatformServices and its child service components. In general, you should regard this portion of the station as most critical, as it allows access to items such as host licenses and TCP/IP settings. Furthermore, right-click actions on the PlatformService include "Restart Station" (note that if a QNX-based JACE, this results in a host reboot!).

Included under PlatformServices are a TcpIpService and LicenseService, providing station (Fox) access to dialogs used in platform views, for instance the TCP/IP Configuration dialog as shown in Figure 13. These services support installations where all configuration must be possible using only a browser connection (and not Workbench connected to the JACE's platform daemon).

PlatformServices items of interest for JACE commissioning

For any QNX-based JACE, its serial port and power monitoring configuration is accessed in the following child service components of the station's PlatformServices:

- SerialPortService -- Holds properties for configuration and status of the JACE's serial ports.

- PowerMonitoringService -- Holds properties for configuration and status of the JACE's battery monitoring and AC power-fail shutdown.

To perform either JACE serial port configuration or JACE power monitoring configuration, a station must be running in the JACE to access these services. Also, you may wish to review the parent container's PlatformServices properties and optionally adjust, if needed.

For any JACE-NXS, the platform service items of interest during commissioning are as follows:

- HardwareMonitorService -- Holds two internal JACE-NXS environmental values: CPU temperature and board temperature. Included for each is an adjustable alarm limit, with a "default" value. See Hardware monitoring JACE-NXS configuration.

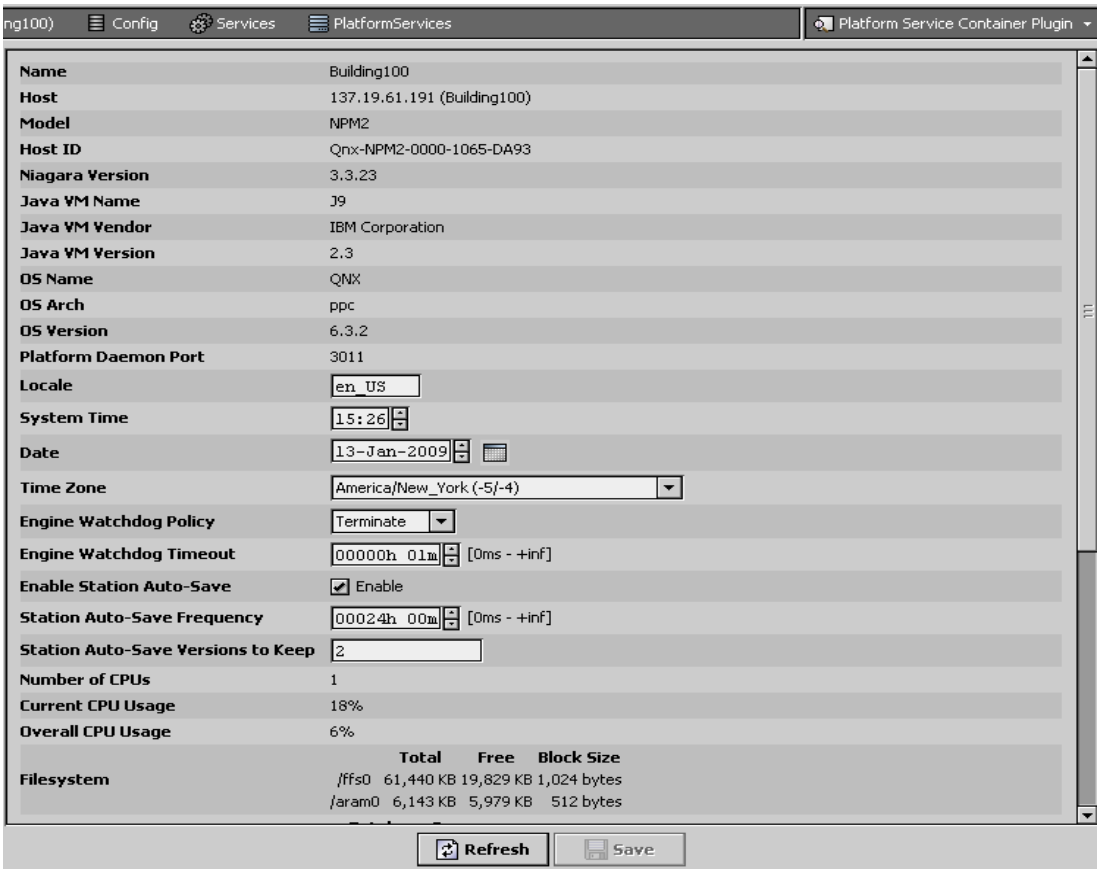
- PowerMonitorService -- Provides monitoring of the SITOP UPS module connected via USB cable to the JACE-NXS, including alarms in the event of a

power failure, battery test failure, or USB connectivity problem. See Power monitoring JACE-NXS configuration.

Also, you may review the parent container's PlatformService properties and optionally adjust, if needed.
Unlike in a station running on a QNX-based JACE, the child SerialPlatformService contains read-only properties--JACE-NXS serial port setup is done in the operating system, Windows XP. However, there is also a TcpIpService and LicenseService, providing station (Fox) access to dialogs used in platform views, for instance the TCP/IP Configuration dialog (as shown in Figure 13). These platform services support installations where all configuration must be possible using only a browser connection (and not Workbench connected to the JACE's platform daemon).

PLATFORMSERVICECONTAINER PARAMETERS

In addition to acting as a container, the PlatformServicesContainer provides various status and configuration entries for the host platform. In the Nav tree, double-click PlatformServices to access the "Platform Service Container Plugin" which lists these entries, as shown:



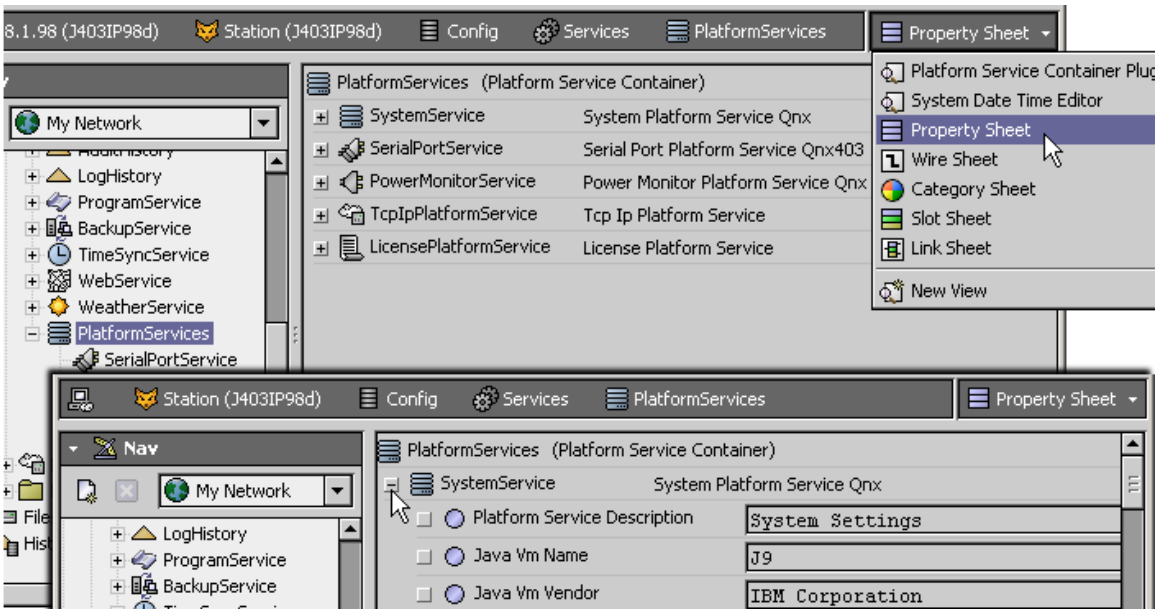
Included are many read-only status values as well as configuration parameters. Each is described in separate sections as follows:

- PlatformServiceContainer status values
- configuration
- additional configuration

By default, any PlatformServicesContainer also provides three right-click actions.

SYSTEMSERVICE (UNDER *PLATFORMSERVICES*)

PlatformServices also contains a child "SystemService" container, accessible from its property sheet as shown. Unlike other child services, SystemService does not appear in the Nav bar.



When you expand SystemServices, you see most of the same properties available in the default Platform Service Container Plugin view. In addition, starting in AX-3.2 there is container slot "Station Save Alarm Support." These properties allow you to configure the alarm class and other parameters to use for "station save" alarms. Such an alarm may occur, for example, if there is insufficient disk space to complete the save. Properties work the same as those in an alarm extension for a control point.

OTHER HOST ADMINISTRATION TOOLS

Following, is a list of some of the other NiagaraAX tools that are available for host administration tasks.

Platform Services

This service allows access from a running station–in other words, from the station's perspective on its host platform. Unlike the various other platform views, a platform connection is not needed to access the platform services. Instead, you need only a standard station (Fox) connection. Platform services do not provide the full set of functions available in Workbench, as when you have a platform connection. For example, you cannot install or upgrade software, or transfer stations and files. However, a number of important configuration views for the platform are made available under a station's PlatformServices.

Included under PlatformServices are a TCP/IP Service and LicenseService, providing station (Fox) access to dialogs used in platform views, for instance the TCP/IP Configuration dialog box. These services support installations where all configuration must be possible using only a browser connection (and not Workbench connected to the JACE's platform daemon). Also included under PlatformServices, for any QNX-based JACE, is a serial port and power monitoring service.

USING PLATFORM SERVICES IN A STATION

Apart from configuration usage, some platform services under the PlatformServicesContainer provide status values that you can further incorporate. Typically, each value also provides built-in alarm features. Usage is typical for the following:

- *JACE power monitoring*
- *JACE-NXS power monitoring*
- *JACE-NXS hardware monitoring*

JACE power monitoring

Currently, through the PowerMonitorService, any QNX-based JACE provides status monitoring of the following items, via "Boolean" type slots:

- AC power
  ("Primary Power Present" slot) -- True whenever AC power is currently supplied to the JACE.
- Battery level
  ("Battery Good" slot) -- True if last JACE test of NiMH backup-battery was good.

  Also included is a "Time of Last Test" slot that provides a timestamp for the last battery test.

If needed, you can make Px bindings or links to these slots (however, see PlatformServices binding and link caveats). In addition to these read-only status slots, the PowerMonitorService provides related configuration slots, which you typically review at commissioning time. For more details and a related procedure, see "JACE power monitoring configuration" in the JACE NiagaraAX Install & Startup Guide.

As new QNX-based JACE platforms are introduced, additional power-monitoring capabilities may be present in the station's PowerMonitorService. For example, the Security JACE (SEC-J-201) has two backup batteries: the NiMH battery like a JACE-2, plus a 12V sealed lead-acid (SLA) battery that provides system operation for some duration during a power outage. Separate slots exist for the monitoring and alarming of both batteries.

JACE-NXS power monitoring

Often, a hard-drive based JACE-NXS does not have the special SITOP DC UPS module (with battery accessory), in which case its PowerMonitorService will have no application. The following slots do apply to the CompactFlash-based JACE-NXS, which will be so equipped.

Currently, through the PowerMonitorService, a station running in a JACE-NXS provides status monitoring of the following items, via "Boolean" type slots:

- DC power
  ("Primary Power Present" slot) -- True whenever DC power is currently supplied to the UPS.

- Battery level
  ("Battery Ok" slot) -- True if last UPS backup-battery test was good.

- UPS Connectivity
  ("Ups Talking" slot) -- value is "talking" if last JACE attempt to communicate to the UPS was successful. Another possible state is "no comm." Note that a USB cable must be connected between the JACE-NXS and the SITOP UPS module.

If needed, you can make Px bindings or links to these slots (however, see PlatformServices binding and link caveats). In addition to these read-only status slots, this PowerMonitorService provides related configuration slots, which you typically review at commissioning time. For more details and a related procedure, see "Power monitoring JACE-NXS configuration" in the JACE-NXS NiagaraAX Install & Startup Guide.

JACE-NXS hardware monitoring

A station in the Win32-based JACE-NXS provides status monitoring of internal hardware parameters, via "Float" type slots under its HardwareMonitorService.

The two items monitored are:

- CPU temperature
  ("CPU Temp" slot) -- Value in degrees (C or F) of the mainboard under the JACE-NXS's CPU.

- Board temperature
  ("Board Temp" slot) -- Value in degrees (C or F) of the space inside the chassis.

If needed, you can make Px bindings or links to these slots (however, see PlatformServices binding and link caveats). In addition to these read-only status slots, the HardwareMonitorService provides related configuration slots, which you typically

review at commissioning time. For more details and a related procedure, see "Hardware monitoring JACE-NXS configuration" in the JACE-NXS NiagaraAX Install & Startup Guide.