



SKF @ptitude Analyst

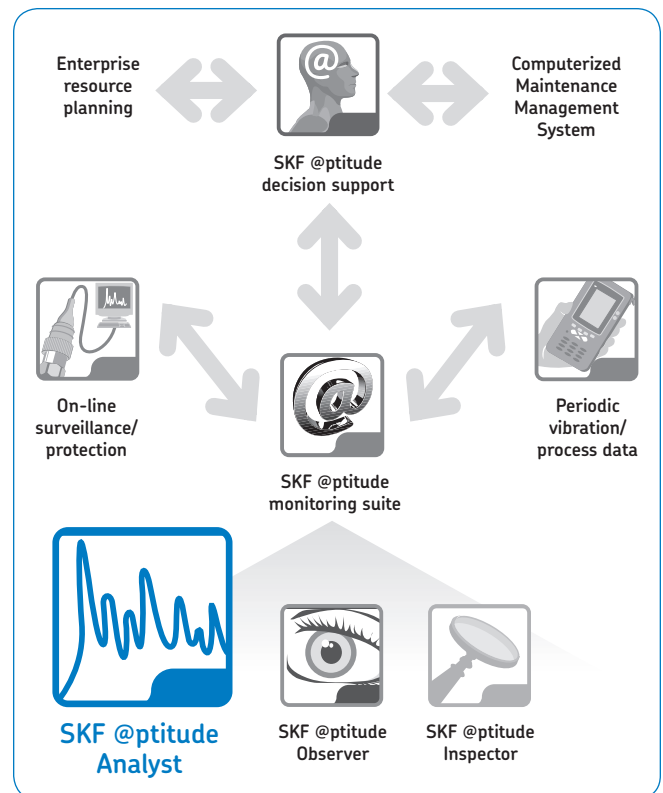
Powerful software for enterprise-wide communications

SKF @ptitude Analyst is a core platform in a family of reliability software applications that work together as SKF @ptitude Monitoring Suite.

SKF @ptitude Analyst is a comprehensive software solution with powerful diagnostic and analytical capabilities. @ptitude Analyst provides fast, efficient and reliable storage, analysis and retrieval of complex machine information and makes the information accessible throughout your organization.

- One software program to manage machinery condition data from portable and on-line devices
- One installation with limitless expansion capabilities
- Easy to learn and use for novice or experienced users
- Interconnectivity with other software programs and systems
- Easy personalization for individual users

When you select @ptitude Analyst, you are immediately equipped to integrate and analyze data from the full range of SKF data collection devices. This enterprise-wide software platform allows operations, maintenance and reliability staff to view the integrated data and communicates the information to each department in a customized format to meet individual user needs. @ptitude Analyst can incorporate data from other sources such as OPC and OSIsoft® PI System™; and seamlessly interface to your SAP®, Computerized Maintenance Management System (CMMS),



Enterprise Resource Planning (ERP) or other information management systems.

@ptitude Analyst's integrated platform forms the hub to share information, foster teamwork, and facilitate consistent and reliable decision-making across functional departments. The addition of @ptitude Decision Support automates reliability maintenance decision-making by identifying probable faults with an asset or process, then prescribing appropriate action.

Diagnosis and analysis

Managing the condition of your assets is easy with @ptitude Analyst

- Flexible setup gives you complete control
- Alarm viewing options let you quickly focus on priorities
- Built-in tools streamline data management

Machine data customized for your unique needs

From the way you set up databases, routes and analysis parameters, to the customized format for reporting, you are in control of powerful analysis tools. You can collect information based on location, machine type, frequency, or other selections. @ptitude Analyst allows you to determine the appropriate limits for alarm conditions and how alarms are categorized to ensure you receive consistent, reliable data in the format that suits you best.

Automated features simplify configuring and fine-tuning alarms

Since similar machines often use the same alarms, the Alarm Database provides user-defined alarms that can be applied to create alarm settings for multiple measurement points.

An Alarm Wizard assists in creating Statistical Alarms to set alarms for your most important machinery with minimal research and effort. @ptitude Analyst considers historical data and natural variation in vibration levels of machinery and generates a reliable set of alarm criterion tailored to the specific machine.

@ptitude Analyst's variable speed alarming features accommodate normal fluctuations in machine speed and function. Alarm limits are automatically reset as speed changes, preventing false alarms.

Robust capabilities that are easy to use

SKF @ptitude Analyst makes analysis easier by combining powerful data mining technology, analytical displays and user-friendly graphics.

- Preference options let @ptitude Analyst work the way you work
- Single views, trends and overlays expand your analysis capabilities
- Easy to read plots provide detailed information

Detailed information - efficiently organized

Screen displays such as data plot layout, color, size and position can be personalized and automatically updated. A customizable toolbar facilitates quick access to the program features you use most frequently.

Right click on your data plot to modify settings and machine information. When you scroll across a data plot, data values are displayed in the plot window.



Enhanced alarm view saves valuable time

Alarm View window displays all points that require immediate attention to help you quickly identify and prioritize follow-up activities. The Alarm Details window offers a comprehensive list of the specific points in alarm and the level and type of alarm, all in one convenient view.

Auto Linking makes it easy to view individual alarms because the data plots and alarm details change automatically as you select specific points, saving time and simplifying the analysis process.

Versatile viewing options for multi-parameter analysis

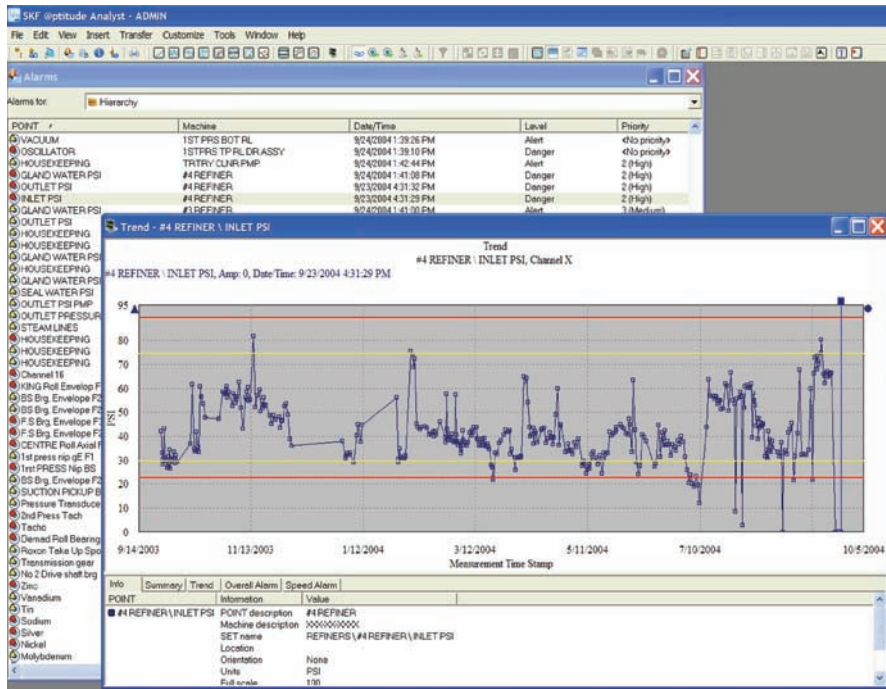
For fast and easy comparison of two or more readings across multiple points, @ptitude Analyst allows you to select a measurement and drag and drop it into the plot, providing convenience and saving time.

The SKF @ptitude Analyst frequency analysis feature helps to identify specific bearing and gearbox frequency sets for rapid detection and correction of bearing and machine problems.

@ptitude Analyst's on-line data view automatically refreshes to display the latest information, point status and alarm details. Live views provide immediate update of displayed data while the Event Log documents specific occurrences over time. The System Information view provides one-stop navigation between different views such as Event Log, On-line Data view, individual routes and workspaces.

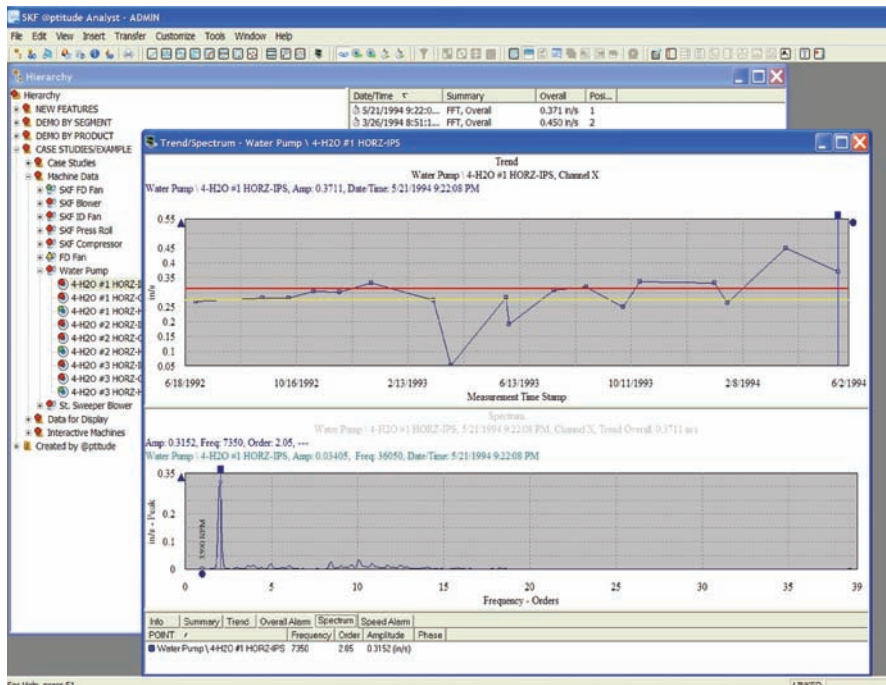
@ptitude Analyst's database management tools allow you to closely track machine problems to recreate events for predictive maintenance and to perform root cause failure analysis.

Alarm view



Trend, spectrum and other plots can be displayed for each machine in alarm for further analysis.

Multi-pane plots



@ptitude Analyst allows you to view multiple data plots in a single window. View Trend/Spectrum, Trend/Spectrum/Time, and more to make the most reliable and accurate decisions on machinery.

Access and security

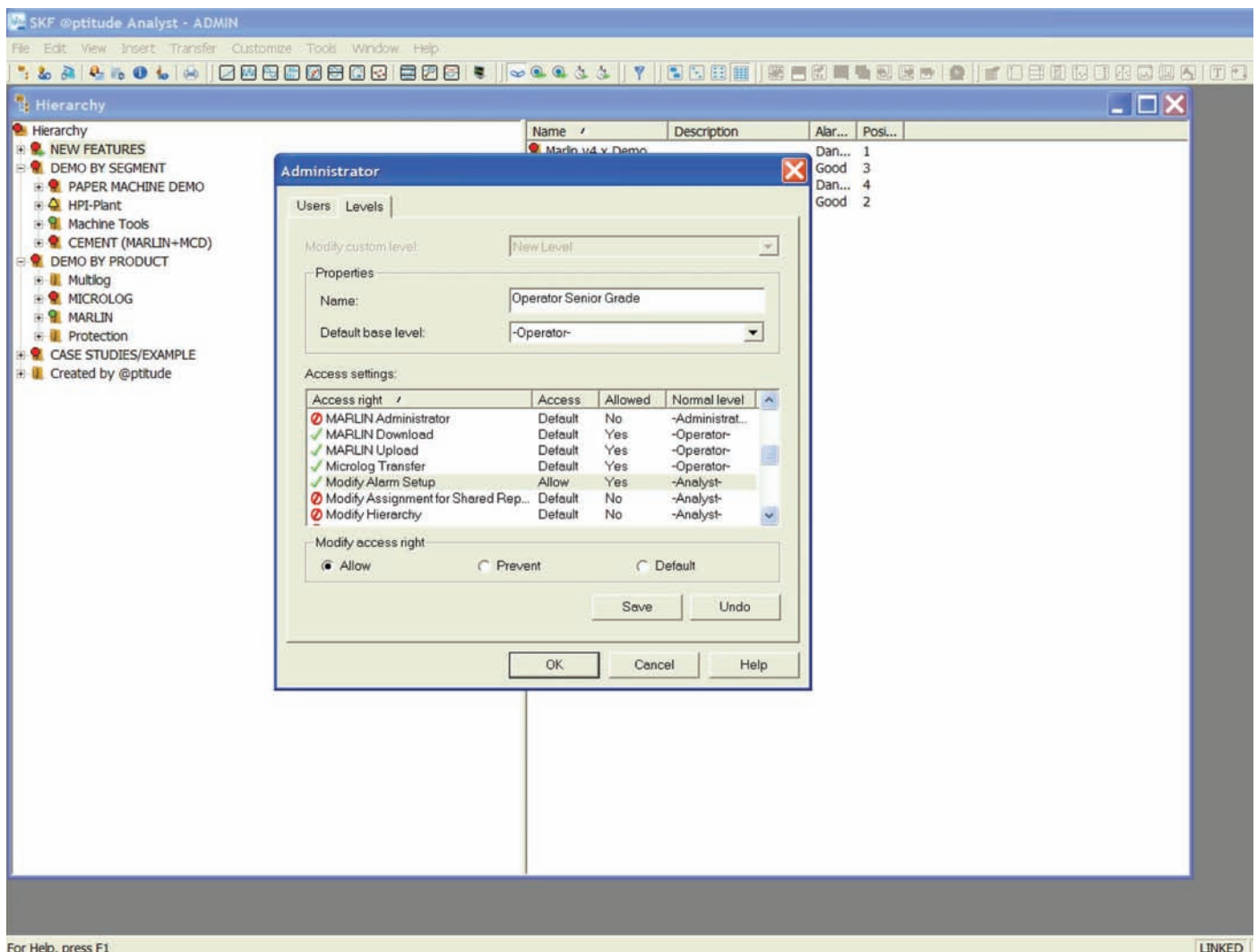
Controlling access while effectively communicating information

@ptitude Analyst permits access on a customized basis, yet allows the effective exchange of detailed information across functional departments.

- Definable security protects your valuable data
- Easy and flexible reporting options
- Automated functions minimize human error

Advanced security system protects data

Four standard security levels are provided within @ptitude Analyst and an unlimited number of custom user security levels can be created. Each level represents access rights that can be limited and controlled to prevent unauthorized use of the system and limit the possibility of inadvertent damage to your valuable program database.



Customized reports

Extensive report customization features let the user control the specific kinds of machine information to be communicated throughout the organization. You can customize the templates or design an entirely new report including data plots, supplemental information and digital images.

Reports are generated in HTML format, giving you the flexibility to view on-screen, print, attach to an e-mail or post the report to your company intranet – automatically. Other features allow you to maintain a history of reports, pre-configure report content and format to share with selected users.

Automatically schedule reports to save time

The Scheduler Wizard enables a user to automatically schedule a specific action, such as generating a report upon completion of a data collection upload, archiving measurement data at a specified time or other event-based actions. This capability helps to eliminate human error and allows the user to focus on other more pressing issues.

Using @ptitude Analyst throughout your organization allows collaboration and communication without losing control of your data.

The screenshot shows the SKF @ptitude Analyst software interface. A 'Report - WN' window is open, displaying a 'Work Notification Report'. The report title is 'Work Notification Report' and the source is 'Hierarchy', dated '4/15/2007 2:41:19 PM'. Below the title is a table titled 'Last Measurement' with the following columns: Machine name, POINT name, Date/Time, Last value, Previous value, Units, % change, and Alarm status. The table contains 12 rows of data, including entries for 'Alarms to Manipulate', 'Pump', 'Motor', and 'Fan'.

Machine name	POINT name	Date/Time	Last value	Previous value	Units	% change	Alarm status
Alarms to Manipulate	Envelope Alarm	4/7/2007 7:56:40 PM	0.7514969	0.7499373	in/sec	0.208	Overall - Danger
---	---	---	---	---	---	---	Envelope - Danger
Alarms to Manipulate	Band Alarms	4/7/2007 7:56:40 PM	0.7514969	0.7499373	in/sec	0.208	Band: Fixed Freq. Overall - Danger
---	---	---	---	---	---	---	Band: Band, Peak - Danger
---	---	---	---	---	---	---	Overall - Danger
Pump	DE InLine gE3	8/28/2006 4:01:41 PM	0.07827998	---	gE	---	---
Pump	DE 90 deg Vel	8/28/2006 4:01:34 PM	6.449324	---	mm/sec	---	Overall - Alert
Pump	DE InLine Vel	8/28/2006 4:01:26 PM	0.1367229	---	mm/sec	---	---
Motor	DE InLine gE3	8/28/2006 4:01:16 PM	0.07812738	---	gE	---	---
Motor	DE 90deg Vel	8/28/2006 4:01:06 PM	6.637013	---	mm/sec	---	Overall - Alert
Motor	DE InLine Vel	8/28/2006 4:00:57 PM	6.59772	---	mm/sec	---	Overall - Alert
Fan	NDE Vert Vel	8/28/2006 4:00:43 PM	6.630909	---	mm/sec	---	Overall - Alert
Fan	DE Horiz eE3	8/28/2006	0.07660146	---	eE	---	---

Predefined report templates make it easy to generate common reports such as last measurement, exception, overdue/non-compliant, history, route statistics, and others.

SKF @ptitude Analyst features and capabilities

ALARMS

- Alarm window
 - Quickly find and identify all points in alarm within the hierarchy, group, route, workspace, or machine
- Alarm details
 - Provides a summary of type of alarm and status
- User defined alarm levels
 - Public alarms that can be shared with other users
 - Private alarms that can only be used by specific users
 - Unlimited number of alarms can be configured
- Four overall alarm levels per measurement point
 - Danger high, alert high, alert low, danger low
 - Enhanced event log capabilities (Multilog)
 - Out of window, in window, level alarms supported
- Alarm types
 - Overall forecast
 - Overall percent change
 - Unlimited spectral band (overall and peak)
 - Spectral envelope
 - Phase angle
 - Overall
 - Inspection
 - MARLIN condition detector
 - Variable speed alarms
 - Crash alarm (Multilog TMU only)
 - BOV alarming
 - Statistical alarm calculation

COMMUNICATION

- Automatic report generation based on a specified time, data upload via scheduler wizard
- Data transfer with SKF MARLIN and Microlog (CMVA, CMXA and GX series) systems, Multilog (DMX, TMU, CMU, LMU, WMU)
- Download by Hierarchy, Route, or Workspace
- Microsoft ActiveSync®
 - Serial, USB, Ethernet and others
- OPC client interface available

DATA DISPLAY

- Orbit
 - Synchronized cursoring
 - Smax locator
 - Flash blank
 - Filtering
 - Vector compensation
 - Waveform compensation
 - True sensor angle compensation
 - Tacho offset compensation
- Shaft centerline
- Overall trend displays
- MARLIN condition detector
- Temperature
- Digital images
- Spectrum displays (waterfall, palogram)
- Single point, multiple point displays
- Phase displays (polar vector, magnitude/phase)
- Triaxial point
- Time waveform displays
 - Single point, multiple points
- Multi-channel display
- Combination graphs
 - Orbit/time
 - Trend/spectrum
 - Trend/spectrum/time waveform
 - Trend/speed
 - Trend/speed/spectrum
 - Trend/speed/spectrum/time
 - Trend/speed/time
 - Waterfall/extracted trend/spectrum
 - Waterfall/extracted band trend

- Trend/time waveform
- Spectrum/band trend
- Live views (Multilog)
- Live bars (Multilog)
- Graph overlays
- Spectrum
 - Single, harmonic, sideband, peak, band cursors
 - On screen defect frequency
 - Running speed
 - Spectral band alarm
 - Spectral envelope alarm
 - Overall alarms
- Display tools
 - Display information area
 - On-screen text annotation
 - Percent of full scale setting
 - Auto scaling
 - Cursor micro-manipulation
 - Autolinking of displays and active hierarchy
 - Linear or log X or Y scaling
 - Grid
 - Orders, frequency scaling
 - Amplitude threshold %
 - Waterfall slant angle setting
 - Date range setting
 - User selectable color settings
 - Waterfall spacing (time/date based or event)
 - Spectrum data post processing (integration/differentiation)
 - Baseline spectrum storage

DATABASE

- Built on Oracle® database management system
- Microsoft SQL Server 2005 compatible
- ODBC, SQL, and TCP/IP protocol compliant database opens the database content
- Fully networkable in a Local Area Network (LAN), Wide Area Network (WAN), and Thin-client (Terminal) environments
- Unlimited number of:
 - hierarchies
 - collection points
 - measurements
- Database supports
 - XML data importing and exporting
 - Binary importing and exporting
- Point configuration management to quickly and easily make system-wide changes

GENERAL

- Multiple languages available
- Windows®-based functionality
 - True multi-processing operating environment allowing simultaneous background and foreground processing
 - Complete right click functionality (drop down menus)
 - Drag and drop
 - Cut/Copy/Paste
 - Complete integration of third party applications
- User preferences allow customization
- Context sensitive help
- Complete user manual on installation CD-ROM
- Product Support Plans (PSP) available

MEASUREMENTS

The following measurements can be entered manually or automatically

- Acceleration
- Amps
- Conditional points (MARLIN)
- Displacement

- English or metric units
- Enveloped acceleration
- Flow (GPM, LPM)
- High Frequency Detection (HFD) and Digital High Frequency Detection (DHFD)
- Inspection points (user definable)
- Multi-channel
- Operating hours
- Operating time (elapsed and cumulative)
- Pressure (PSI and bars)
- RPM
- SEE (Spectral Emitted Energy)
- SKF acceleration enveloping (gE)
- Speed
- Temperature (°C and °F)
- Triax
- User-specific units
- Velocity
- Volts (AC or DC)
- Derived Point – *user definable mathematical formula to calculate a derived value from data collected on multiple points.*

REPORTS

- Preserved reports – *enables you to maintain a history of reports.*
- Shared reports – *allows you to share and preconfigure reports for selected users.*
- Send reports to screen, HTML file, printer
- HTML file can be posted to internet, intranet, e-mailed
- HTML files can be opened and modified further using Microsoft® Office products, i.e. Word®, Excel®, PowerPoint®
- Customizable report content
- Data plots, supplemental information, and digital images can be included in reports
- Report types
 - Last measurement
 - Exception
 - Overdue/non-compliant
 - Pending overdue/non-compliant
 - Collection status
 - Route history
 - Route statistics
 - Set statistics
 - Upload statistics
 - History
 - Inspection
 - Work notification
 - Blank (user defined)
 - Compliance
- Report templates allow quick and easy report configuration for use and reuse

SECURITY

- Fully configurable user rights that allow you to read, view and have full access
- Unlimited access levels
- Allows assignment of access rights to user groups
- Hierarchy access – *an enhanced security feature that authorizes viewing and manipulation of hierarchies.*

TEMPLATES AND WIZARDS

- Statistical alarm wizards use historical data to help refine overall alarms
- Hierarchy template wizard allows for rapid hierarchy creation and machine templates for reuse
- Report template allows for the custom configuration of reports and report templates for reuse
- Scheduler wizard helps configure and preset recurring activities such as report generation, data archival and task reminders

Hardware requirements

STAND ALONE CONFIGURATION		
<ul style="list-style-type: none"> Running SKF @ptitude Analyst Running Oracle® or Microsoft SQL database management system Storing data 	<i>Minimum Requirements</i>	<i>Recommended Requirements</i>
Operating system	Windows 2000 with Service Pack 3+ OR Windows XP Professional with Service Pack 2	
Processor (* Note 1)	Pentium IV, 1.6 GHz	Pentium IV, 2.1 GHz Core 2 Duo or better
RAM	1.0 GB	2.0 GB or more
Disk space available for stand alone computer (* Note 2)	1.2 GB	1.2 GB or more
CD/DVD drive	One (1) required	One (1) required
Video display	1024 x 768	1280 x 1024 or larger
Oracle®/Microsoft SQL	Version 9i, 10g/SQL Server 2005	

Network configuration – SERVER	Network configuration for up to 35 Clients and one database.	
<ul style="list-style-type: none"> Running Oracle® or Microsoft SQL database management system Storing data 	Installations of 50 Clients or greater will require an on-site assessment by our Field Service Engineers	
	<i>Minimum Requirements</i>	<i>Recommended Requirements</i>
Operating system	Windows 2003 Server, Windows 2000 Server with Service Pack 3	
Processor (* Note 1)	Pentium IV, 2.0 GHz	Pentium IV, 3.2 GHz Core 2 Duo
RAM	2.0 GB	4.0 GB or more
Quantity of hard drives (* Note 3)	3	5
Disk space available (* Note 3)	1.2 GB	1.2 GB or more
Oracle®/Microsoft SQL	Version 9i, 10g/SQL Server 2005	

Network configuration – NETWORK CLIENT	Network configuration for up to 35 Clients and one database.	
<ul style="list-style-type: none"> Running SKF @ptitude Analyst Running database client software 	Installations of 50 Clients or greater will require an on-site assessment by our Field Service Engineers	
	<i>Minimum Requirements</i>	<i>Recommended Requirements</i>
Operating system	Windows 2000 with Service Pack 3+ OR Windows XP Professional with Service Pack 2	
Processor (* Note 1)	Pentium IV, 1.6 GHz	Pentium IV, 2.4 GHz Core 2 Duo
RAM	1.0 GB	2.0 GB or more
Disk space available for each network client (* Note 2)	200 MB	500 MB or more
CD/DVD drive	One (1) required	One (1) required
Video display	1024 x 768	1280 x 1024 or larger
Oracle®/Microsoft SQL	Version 9i, 10g/SQL Server 2005	

NOTE 1: These requirements apply to SKF @ptitude Analyst complete with database management system. Other applications running simultaneously may degrade performance.

NOTE 2: These requirements ONLY apply to SKF @ptitude Analyst complete with database management system. Additional storage disk space is required for data.

NOTE 3: The major benefits of spreading Oracle across three or more hard disks at the server is the improved speed, and improved recoverability of a previously archived database. The recommended five disk configuration provides the optimal protection for backup, recovery, indexing, and speed. Disk/file configuration should ONLY be handled by a SKF Field Service Technician certified on SKF @ptitude Analyst. If using RAID, the combination of RAID 0 and RAID 1 is recommended over RAID 5.

NOTICE: If running other versions of Oracle, Microsoft SQL Server, or other database management system are expected to run in the same PC environment, please contact your local SKF Representative to inquire about compatibility.

SKF @ptitude Analyst – Powerful software for enterprise-wide communications

Ordering information

- SKF @ptitude Analyst software for Microlog, MARLIN, TMU, DMx, CMU, LMU, MIM and WMU [CMSW 7400]
- SKF @ptitude Analyst for Microlog Analyzer [CMSW 7300]

The SKF @ptitude Analyst is available in Single and Multi Client configurations. Please contact your local SKF Reliability Systems representative for Multi Client model information.

Product Support Plans (PSP)

A range of Product Support Plans are available to protect your investment. Contact your local SKF Reliability Systems Sales Representative for additional information.

Installation and training

Installation and training available through your local SKF Supplier or Representative.

SKF Reliability Systems

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