Overview

System 1* represents GE Bently Nevada’s flagship condition monitoring solution that seamlessly integrates with our industry leading products including online and portable devices. System 1 Industrial Packages are designed for complete plant-wide monitoring of your facility. We offer System 1 licenses to accommodate different facility sizes together with the flexibility to connect to any Bently Nevada’s field devices without requiring a-la-carte import licensing. You can build a plant-wide condition monitoring strategy with the software fully licensed and ready to connect to your equipment.

System 1 Packages

A successful condition monitoring program requires equipment knowledge including an understanding of failure modes and operational criticality, together with a cross functional team, process rigor, and enabling technologies. Bently Nevada* offers flexible solutions ranging from product delivery and deployment services to supporting service agreements through which we partner with you to manage your condition monitoring program.
The Evolution of System 1*

System 1 software is vital for a successful condition monitoring solution. The latest version of the software offers a single ecosystem for plant-wide machinery management.

Get connected to Bently Nevada’s best-in-class online and scanning devices. Then, get insights from the data to monitor the health of your equipment over time:

- Leverage alarms to monitor assets and detect operational changes.
- Use long-term trended data to determine whether a change warrants further investigation.
- Analyze datasets and advanced plots to identify the root cause of the change.
- Share supporting information with other team members.
- Adjust alarms and add observational notes to improve your condition monitoring program over time.

User Experience

Modern consumer software applications strive to provide the best user experience. Industrial condition monitoring software must do the same:

- Modern and intuitive interface
- Continuous user involvement
- User-driven CM and diagnostic workflows

Capability

System 1 provides scalability for database management, diagnostics, and work prioritization:

- High resolution trend, alarm and startup/shutdown data
- Short-term black box flight recorder for trend data
- Anti-Friction and Hydrodynamic Bearing Diagnostics
- Diagnostic reporting

Accessibility

Successful condition monitoring programs require collaboration among teams and controlled access to tools:

- Data replication to view data on a business network
- Client/Server deployment model (2 Ports)
- 2X/Citrix® Enabled
- System 1 Fleet Connectivity

Embedded Expertise

System 1 is unique because it provides equipment-focused solutions and best practice configuration and diagnostics:

- Equipment state-based data collection and alarming
Package Ordering (Perpetual License)

General Industrial Perpetual Package

**3071/70** System 1 for Industrials - Perpetual  
3071/70-AA-BB-CC

**AA:** Industry Type
- 01 – Pulp and Paper
- 02 – Air Separation
- 03 – Sugar Production
- 04 – Wastewater
- 05 – Drilling Rigs
- 06 – Steel Production
- 07 – Food & Beverage
- 08 – Manufacturing
- 09 - Pharmaceuticals
- 10 - Marine Vessel*

*Non-applicable for FPSO, FSO, or FLNG vessels

**BB:** Package Size
- 01 – Small Database
- 02 – Medium Database
- 03 – Large Database
- 04 – Extra Large Database

**CC:** Quantity of Server Licenses
- ## – Numeric Entry [1→25]

Power Generation Perpetual Package

**3071/80** System 1 for Power Generation - Perpetual  
3071/80-AA-BB-CC

**AA:** Package Option
- 01 – New Order
- 02 – Expansion Order

**BB:** Plant Output (MW)
- ## – Numeric Entry [1-30,000 MW]

**CC:** Quantity of Server Licenses
- ## – Numeric Entry [1→25]

Industrial Packages Include
- ✓ Premium+ license(s)
- ✓ Unrestricted device import (Limits based on server)
- ✓ Unrestricted process data import (OPC DA)
- ✓ Unrestricted process data export (OPC DA)
- ✓ Unlimited Display Clients

Industrial Packages Do Not Include
- ✓ Database Replication
**Package Ordering (Subscription License)**

We offer subscription licenses that include support for and updates to System 1. Software functionality is identical for perpetual and subscription licenses. Key structural differences exist between these license types:

**Subscription License**
- Smaller upfront investment (flat year-over-year OPEX)
- Subscription license fee includes support and updates.
- Software stops working if subscription is cancelled.

**Perpetual License**
- Larger upfront investment (one-time CAPEX)
- Must purchase support and updates (M&S) separately (lower OPEX than subscription)
- Software license does not expire. Support and updates cease if M&S is cancelled.

### General Industrial Subscription Package

**3072/70** System 1 for Industrials - Subscription

<table>
<thead>
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<td>BB: Term</td>
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03 – Sugar Production  
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06 – Steel Production  
07 – Food & Beverage  
08 – Manufacturing  
09 - Pharmaceuticals  
10 - Marine Vessel † |

† Navy, Container Ship, LNG Transport, FSRU, etc.

**Power Generation Subscription Package**

**3072/80** System 1 for Power Generation - Subscription

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</table>
| CC: Package Option | 01 – New Order  
02 – Expansion Order |
| DD: Plant Output (MW) | ## – **Numeric Entry** [1→30,000 MW] |
| EE: Quantity of Server Licenses | ## – **Numeric Entry** [1→25] |
Get Connected

3500 Series

3500 Monitoring System – Full Rack
/22, /25, /32, /33, /40, /42, /44, /45, /50, /60, /61, /64, /65
Standard & M series monitors
✓ 14 monitor slots with simultaneous sampling
✓ 1 sec trend / 10 min waveform data capture
✓ High resolution alarm data capture
✓ High resolution startup/shutdown data capture

3500 Monitoring System – Mini Rack

Same monitors as Full Rack
✓ 7 monitor slots
✓ Same capabilities as Full Rack

TDI Secure

/42E /45E /PV

All functionality of 3500 TDI (/22):
✓ 24 simultaneous Vibration + 24 Process points + 4 Tachs
✓ Connection to non-Bently vibration systems
✓ Cyber security solution for separating protection and condition monitoring

2300 Monitoring System

✓ 2 simultaneous monitoring points + 1 tach
✓ 1 sec trend / 10 min waveform data capture

Process Data

OPC DA Import
✓ Improve CM capability with process correlation
✓ License includes over 1000 tags for a System 1 Server.
✓ 1 sec trend data capture

OPC DA Export
✓ License includes up to 10000 tags for a System 1 Server.
✓ 1 sec data export rate

Portables

Analyzers and Data Collectors
✓ 2 and 4 Channel Models
✓ Hazardous Area Approvals

Database Replication

3071 or 72 /16-AA-BB-CC System 1 Replication

AA: License Value of Tx Server(s) (# - 1→n)
BB: Quantity of Rx Server Licenses (# – 1→n)
CC: Physical Installation Media

01 – No (Default)
02 – Yes

(AA) What is a Tx Server?
✓ Conduit to move data to the business network
✓ Contains config info and connection to devices

(BB) What is an Rx Server?
✓ A database that mirrors the S1 server on the Plant Network
✓ Supports 80-90% of daily condition monitoring tasks

Condition Monitoring & Basic Protection

vbOnline* Pro Monitoring System
✓ 12 simultaneous monitoring points + 2 tachs
✓ 30 sec trend / 10 min waveform data capture
✓ Simultaneous Alarm Snapshot (1 per 30 sec)
Stay Current – Software Maintenance & Support

Maintenance and Support (M&S)

3071/20 System 1 Maintenance & Support
3071/20-AA-BB-CC-DD-EE-FF-GG-HH

AA: M&S Support Level
01 – Gold Support
02 – Platinum Support

BB: M&S Term
## – Numeric Entry [1→20 years]

CC: System 1 Products Covered Under M&S Agreement
01 – System 1 17.x (3071 Family)
02 – System 1 6.x (3060 Family)

DD: Total System 1 Software License Price
## – Numeric Entry [In Local Currency]

EE: Customer Activation Number (CAN)
## – Text Entry [CAN####]  

FF: Software Contact Name
## – Text Entry [Ex: Bently Nevada]

GG: Software Contact Email Address
## – Text Entry [Ex: BentlyNevada@bhge.com]

II: M&S Order Type
01 – New Order
02 – Renewal Order
03 – Expansion Order

System 1 Maintenance and Support provides access to 24/7 technical support and several System 1 user and security focused releases annually.

System 1 software maintenance and support agreement provides access to the latest updates and platform upgrades through a simplified web portal interface.

Customers with System 1 version 6.x and Ascent* qualify for a FREE upgrade to the latest platform (v17.2 release Nov 30, 2017). See 3071/65.

✓ 24/7 technical support (regional specialists)
✓ Access to the latest software releases
  o Operating system updates
  o Cyber security patches
  o User-driven feature additions

Free System 1 & Ascent* Platform Upgrade

3071/65 System 1 Software Free Platform Upgrade

AA: Customer Activation Number (CAN)
## – Text Entry [CAN####]  

BB: Software Package Upgraded
01 – System 1 v6.x
02 – Ascent 2015

CC: New Software Package
01 – Premium+ Package
02 – Premium Package
03 – Advanced+ Package
04 – Advanced Package
05 – Fundamental Package
06 – Power Generation Package

DD: Quantity of Display Clients
01 – Single Client Package
05 – Small Package [6 Clients]
10 – Medium Package [11 Clients]
15 – Unlimited Clients

EE: Quantity of Server Licenses (DAQs)
## – Numeric Entry [1→n]

FF: Historical Data Migration
01 – Yes [System 1 v6.81+ & Ascent* v2015] (v17.2)
02 – No

GG: Qty of 3500 Devices - Turbomachinery
## – Numeric Entry [1→n]

HH: Qty of 3500 Devices - General Machines
## – Numeric Entry [1→n]

II: Qty of 3500 Devices - Recip Machines (v17.2)
## – Numeric Entry [1→n]

JJ: Qty of TDI Secure Devices
## – Numeric Entry [1→n]

KK: Qty of OPC DA Import Licenses (1 per server)
## – Numeric Entry [1→n]

LL: Qty of OPC DA Export Licenses (1 per server)
## – Numeric Entry [1→n]

MM: Plant Design Output (Power Gen Package Only)
## – Numeric Entry [1→n]
Specifications

Refer to System 1* Software Package Datasheet, document number 108M5214, for specifications and product capabilities.