System 1 Software
Datasheet

Bently Nevada Machinery Management

Offering plant-wide condition monitoring insights to reduce risk, increase productivity, and minimize unplanned downtime.

System 1 streamlines decision-making processes by bringing machine data into a single platform, providing clarity and context to your operations and enterprise. Harnessing the power of Bently Nevada's decades of machinery research and advanced diagnostics expertise, this powerful tool is a key component of successful digital transformation in any industrial facility. By combining its **Connectivity, Analytics**, and **Visualization** capabilities, System 1 is the premier Edge historian and condition monitoring platform among industrial operators.

System 1 brings it all together
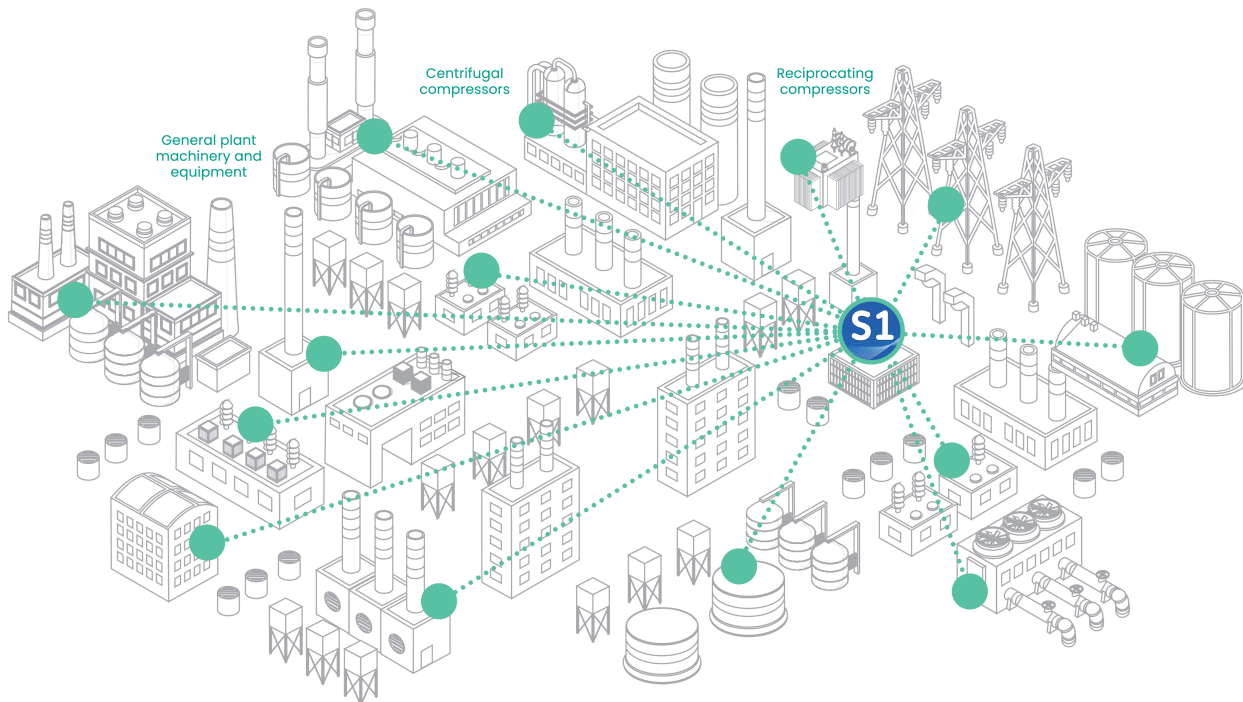
Bently Nevada has a rich heritage in helping customers solve industrial maintenance challenges that is over 60 years strong. Through user research in 25 countries with more than 500 end users, we have studied our customers' team dynamics, site processes, and technology suites to determine how System 1 can best support plant-wide machinery management. The resulting platform is the most comprehensive and user-intuitive condition monitoring solution ever developed.

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Connectivity + Analytics + Visualization = A Complete Solution

Connectivity
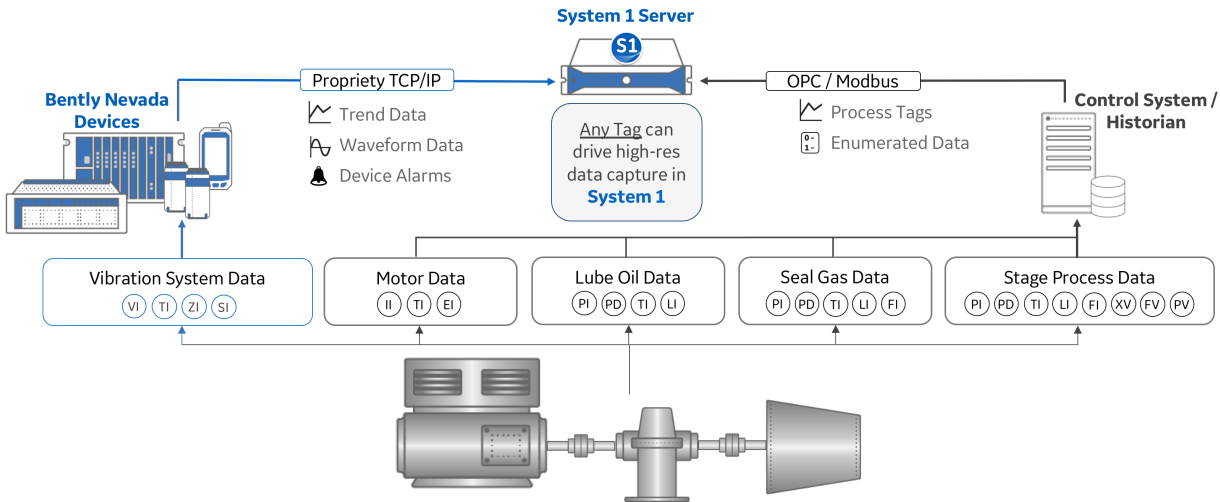
System 1 connects to data sources on the Edge and collects high resolution vibration, process, and control system data. This data can be collected at up to once-per-second from a Bently Nevada Device, such as 3500 or Ranger Pro, from a Programmable Logic Controller (PLC), or from another Historian. In addition, an alarm on any tag mapped to a machine will trigger high-resolution data capture from all other tags, which includes 100ms static data from Bently Nevada's 3500, ADAPT, and Orbit 60 Series devices.

Analytics

Within System 1, threshold alarms can be configured per machine operating state, with adjustable settings for time delay, latching, and suppression. Four levels of alarm setpoints can be configured per measurement, regardless of the source of the data (e.g., Bently Device, OPC, Modbus). Decision Support extends the analytic capabilities of System 1, enabling users to build custom rules for deeper insights into the behavior of their machines and enhanced knowledge across plants or entire enterprises. Bently Performance further expands analytic capabilities within System 1 by offering online thermodynamic performance monitoring.
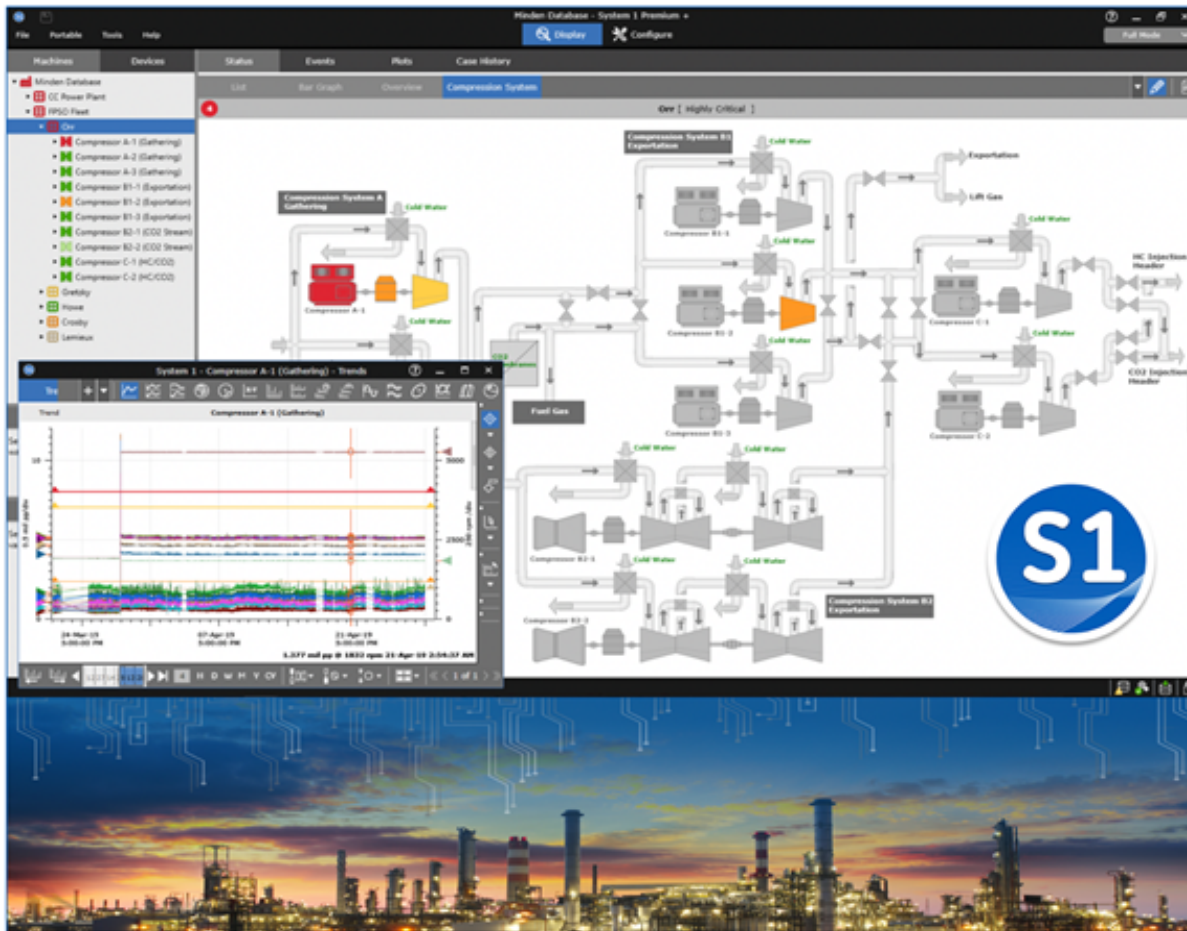
**S1 Core Alarming**

Decision Support

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Visualization

Post collection and analysis, System 1 provides best-in-class visualization tools. The HMI builder allows users to graphically represent their entire Plant System using the built-in symbol library. The HMI view graphically depicts operational health, allowing users to focus on their high priority assets. Collected data can be viewed and manipulated within the plotting workspace, enabling users to diagnose machinery health issues. With a multitude of plot types and tools, users can quickly identify abnormalities and assess their impact on the smooth operation of their facility.

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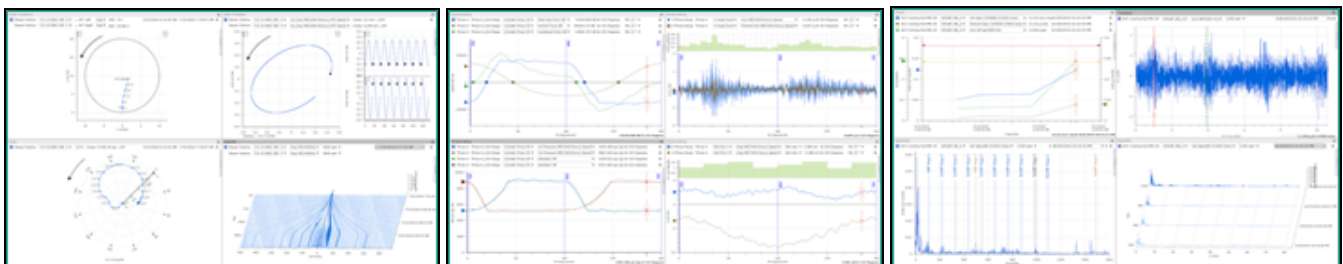
General Capabilities

Distributed Client/Server Deployment

- TCP/IP Client to Server Communication
  (Ports 7550 and 7551)
- Clients can connect to five different condition monitoring databases simultaneously on a server.
- A single Server 1 server can support online data collection for up to 5 databases.
- System performance tested with 5 simultaneous client connections to one online database.

Data Replication

- Access System 1 on the business network by replicating data across a data diode or firewall.
- Reduce Cyber Security risks to an acceptable level.

User Security Roles

- Leverages Windows Domain and local accounts
- Administrator Role (Read, Write, Database Management)
- Advanced Role (Read, Write)
- Basic Role (Read Only)
- Users with the Edit Settings right can modify the settings for the Advanced and Basic roles.

Database and Server Capacity

- System 1 Server can run five online condition monitoring databases.
- The System 1 Server can contain multiple portable databases in addition to the online databases.
- Each condition monitoring database can contain a maximum of 5000 pieces of equipment. (Motor + Pump = 2)
- Embedded PostgreSQL for data storage and management
- Edit Trend, Alarm, and Transient Data Store sizes and monitor health over time to avoid losing data. Available only for online data.

Display Unit Preferences

Effortlessly switch between As Configured, Imperial, and SI unit systems from Display.

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System Specifications and Recommendations

Standard Server	Racks: Dual Intel Xeon 4208 8-core, 2.1GHz Processors, 16 cores total, 32 logical processors Towers: Dual Intel Xeon 4210 10-core, 2.2GHz Processors, 20 cores total, 40 logical processors 64 GB RAM or above Operating System Hard Disk: RAID 1 & 300 GB – 10000 RPM Historian Hard Disk: RAID 6 – 10,000 RPM DVD-RW
Light Server	Rack: Single Intel Xeon 4208 8-core, 2.1GHz Processors, 8 cores total, 16 logical processors Tower: Single Intel Xeon 4210 10-core, 2.2GHz Processors, 10 cores total, 20 logical processors 16 GB RAM or above Operating System Hard Disk: RAID 1 & 300 GB – 10,000 RPM Historian Hard Disk: RAID 6 & 1.2 TB– 10,000 RPM DVD-RW
Workstation	Intel Xeon W-2123 (3.6 GHz Processor) 16 GB RAM or above 1 GB Graphics Card 1 TB Hard Drive – 7200 RPM DVD-RW
Laptop	i7 – 8850H (2.6 GHz Processor) 6 cores 16 GB RAM or above HD Graphics Card 512GB Solid State Drive DVD-RW
Virtualized Systems	Refer to Virtualized Systems Technical White Paper, document number 125M6425.
Network speed	Minimum 100 Mbps recommended
Supported Operating Systems	Microsoft Windows 2019 Server Standard Edition 64 bit Microsoft Windows 2016 Server Standard Edition 64 bit Microsoft Windows 2012 Server R2 Standard Edition 64 bit Microsoft Windows 8.1 Professional 64 bit Microsoft Windows 10 Professional 64 bit † (2004, 20H2,21H1) † † Recommended for Client

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System 1 Ordering

Package Types

System 1 can be ordered in three different package types:

Asset-Based: Order by condition monitoring criticality and quantity of assets.

Industry-Based: Order by application industry and size. Includes unlimited data import across all devices.

Device-Based: Order by type and quantity of devices.

License Types

All System 1 Packages can be ordered as Perpetual or Subscription. While System 1 functionality is identical for both license types, key structural differences exist:

Perpetual Type

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

Subscription Type

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

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Additional Information

What is a System 1 Display Client?

A System 1 Display Client can connect to the System 1 Server residing locally on the same computer or remotely via network access. Local clients can have full access to the condition monitoring database. Remote clients can connect to a condition monitoring database only when direct or networked access to the server is available.

What is a System 1 Server?

A System 1 Server may contain one or more condition monitoring databases accessible from one or more Display Clients. Historical data and configuration structure reside on the server. Hence, the databases are always available. Online data collection is restricted to a single database at a time.

What are + packages?

When ordering by device, a base package must be selected. Select the System 1 Premium+ and Advanced+ packages to use portable data collectors in addition to online devices.

Package	Online Continuous CM	Scanning & Process CM	Portable CM
Premium+	✓	✓	✓
Premium	✓	✓	
Advanced+		✓	✓
Advanced		✓	
Fundamental			✓

Asset-Based Packages
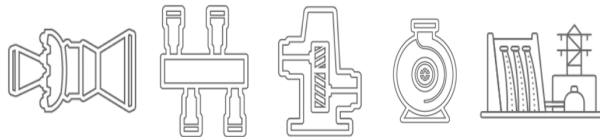
Asset-Based Packages are ordered by condition monitoring asset criticality and quantity, with four asset categories:

Category A Assets

- High criticality assets
- Dedicated online continuous monitoring & protection

Category B Assets

- Essential Assets
- Dedicated online-periodic monitoring or shared continuous monitoring & protection

Category C Assets

- Low Criticality Assets
- Online periodic monitoring only or distributed protection & monitoring

Category D Assets

- Balance of Plant
- Offline periodic monitoring using portable devices

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Package	Online Continuous Mopnitoring & Protection1	Shared Monitoring & Protection or Dedicated Scanning & Process CM2	Shared Scanning CM or dedicated distributed solution3	Offline Portable4	Replication	OPC DA Import/ Export	Modbus Import	OPC UA Export
Asset A	✓	✓	✓	✓				
Asset B		✓	✓	✓				
Asset C			✓	✓				
Asset D				✓				
CMS Core						✓	✓	
IIoT Integration					✓			✓

[1] Dedicated 3500 or ADAPT rack

[2] Typically shared 3500 or ADAPT rack or dedicated vbOnline Pro/DSM

[3] Typically 2300/1900/Ranger Pro or shared vbOnline Pro/DSM SPA

[4] Scout and vbX Series devices for offline periodic monitoring

Asset-Based Packages	
Perpetual	**Subscription**
3071/75 System 1 Asset Package	3072/75 System 1Asset Package
A: Category A Assets	**A: Purchase Type**
Qty # 0 ->n	01 New(First time purchase)
B: Category B Assets	02 Renewal
Qty # 0 ->n	**B: Term (Subscription Term in Years)**
C: Category C Assets	## Numeric Entry (1 ->5 years)
Qty # 0 ->n	**C: Category A Assets**
D: Category D Assets	Qty # 0 ->n
Qty # 0 ->n	**D: Category B Assets**
E: CMS Core	Qty # 0 ->n
00 Not Included	**E: Category C Assets**
01 Included	Qty # 0 ->n
F: IIoT Integration Package	**F: Category D Assets**
00 Not Included	Qty # 0 ->n

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Asset-Based Packages			
Perpetual		**Subscription**	
01	Included	**G: CMS Core**	
G: Quantity of Server Licenses		00	Not Included
##	Numeric Entry [1->25]	01	Included
H: Industry		**H: IIoT Integration Package**	
01	Oil & Gas Upstream	00	Not Included
02	Oil & Gas Midstream	01	Included
03	Oil & Gas Downstream	**I: Quantity of Server Licenses**	
04	Petrochemical	##	Numeric Entry [1->25]
05	LNG	**J: Industry**	
06	Power Gen - Thermal/Nuclear	01	Oil & Gas Upstream
07	Other Markets	02	Oil & Gas Midstream
08	Power Gen - Hydro	03	Oil & Gas Downstream
		04	Petrochemical
		05	LNG
		06	Power Gen - Thermal/Nuclear
		07	Other Markets
		08	Power Gen - Hydro

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Bently HOST Asset Package

Bently HOST™ offers our world-renowned remote monitoring and diagnostics service powered by System 1 as an OPEX managed monthly enrollment. Two package options are available to meet the needs of any operator, industry, and geographic location. Both of these packages are inclusive of enablement services to design, implement and run the program.

Predictive Asset Health Management: Help achieve your KPIs for O&M excellence by implementing an efficient asset condition monitoring strategy by continuous exception-based analysis of condition monitoring alerts and Incident-based asset health reports with recommendations.

•**Preventive Asset Health Management:** Help achieve your KPIs for a preventive asset management strategy with periodic asset health audit reports with recommendations.

Subscription	
3072/77 – Bently HOST Asset Package	
A: Purchase Type	
01	New (first time purchase)
02	Renewal
B: Subscription Term (Months)	
##	1 – 60
C: Qty of CAT-A Assets	
Qty #	0 ->n
D: Qty of CAT-B Assets	
Qty #	0 ->n
E: Qty of CAT-C Assets	
Qty #	0 ->n
F: Qty of CAT-D Assets	
Qty #	0 ->n
G: Outcome Package	
00	Not included
01	Bently HOST Predictive
02	Bently HOST Preventative
H: Hosting Location	
01	BN Minden
02	Third Party Cloud
I: Industry	
01	Oil & Gas Upstream

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Subscription	
02	Oil & Gas Midstream
03	Oil & Gas Downstream
04	Petrochemical
05	LNG Liquefaction
06	Power Gen Nuclear/Thermal
07	Other Markets
08	Power Gen - Hydro
J: Customer Country Group	
01	Group A (all except India and China)
02	Group B (India and China)

Industry-Based Packages

Industry-Based Packages are offered for General Industrials, Power Generation, and Wind Generation. Ordering is based off of application industry and size.

Package	Online Continuous CM	Scanning & Process CM	Portable CM	Replication	Performance	Alarm Event Data Export	Static Data Import/Export	Waveform Export	Ranger Pro
Industrial	✓	✓	✓			✓	✓		✓
Power Gen	✓	✓	✓			✓	✓		✓
Wind		✓				✓	✓		

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General Industrial Package

General Industrial Package	
Perpetual	**Subscription**
3071/70 System 1 for Industrials	3072/70 System 1 for Industrials
A: Industry Type	**A: Purchase Type**
01 Pulp and Paper	01 New (first time purchase)
02 Air Separation	02 Renewal
03 Sugar Production	**B: Term (Subscription Term)**
04 Wastewater	## Numeric Entry [1->5 years]
05 Drilling Rigs	**C: Industry Type**
06 Steel Production	01 Pulp and Paper
07 Food & Beverage	02 Air Separation
08 Manufacturing	03 Sugar Production
09 Pharmaceuticals	04 Wastewater
10 Marine Vessel	05 Drilling Rigs
11 Mining	06 Steel Production
B: Package Size	07 Food & Beverage
01 Small Database	08 Manufacturing
02 Medium Database	09 Pharmaceuticals
03 Large Database	10 Marine Vessel * add 11 option for mining
04 Extra Large Database	11 Mining
C: Quantity of Server Licenses	**D: Package Size**
## Numeric Entry [1 ->25]	01 Small Database
	02 Medium Database
	03 Large Database
	04 Extra Large Database
	E: Quantity of Server Licenses
	## Numeric Entry [1 ->25]

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✎ *Navy, Container Ship, LNG Transport, FSRU, etc. NOT applicable for FPSO, FSO, or FLNG vessels.

Power Generation Industrial Package

Power Generation Industrial Package			
Perpetual		**Subscription**	
3071/80 System 1 for Power Generation		3072/80 System 1 for Power Generation	
A: Package Option		**A: Purchase Type**	
01	New Order	01	New (first time purchase)
02	Expansion Order	02	Renewal
B: Plant Output (MW) - Not Fleet or Multi-Site		**B: Term (Subscription term)**	
##	Numeric Entry [0->30,000 MW]	##	Numeric Entry [1->5 years]
C: Quantity of Plant Server Licenses		**C: Package Option**	
##	Numeric Entry [1 ->25]	01	New Order
		02	Expansion Order
		D: Plant Output (MW) - Not Fleet or Multi-Site	
		##	Numeric Entry [0->30,000 MW]
		E: Quantity of Plant Server Licenses	
		##	Numeric Entry [1->25]

✎ **Note:** It is not acceptable to use this license for multiple sites or an entire fleet.

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Wind Generation Industrial Package

Wind Generation Industrial Package			
Perpetual		**Subscription**	
3071/84 System 1 for Wind Generation		3072/84 System 1 for Wind Generation	
A: Plant Output (MW)		**A: Purchase Type**	
##	Numeric Entry [7 ->1000 MW]	01	New (first time purchase)
B: Quantity of Server Licenses		02	Renewal
##	Numeric Entry [1 ->25]	**B: Term (Subscription term in years)**	
C: License Type		##	Numeric Entry [1, 2, 3, 4 or 5]
01	TX	**C: MW Output of Wind Farm**	
02	RX	##	Numeric Entry [7->1000 MW]
		D: Quantity of Server Licenses	
		##	Numeric Entry [1->25]
		C: License Type	
		01	TX
		02	RX

> 🖉 It is acceptable to license multiple sites or an entire fleet using this part number, as long as an active M&S is in place or all of the sites or the entire fleet.

> 🖉 This package includes data import for up to 200 vbOnline Pro devices. Separate device import licenses are not required.

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Device-Based Packages

Device-Based Packages are ordered by base package, device type, and quantity. Base packages are:

System 1 Premium

Provides connectivity to all of Bently Nevada's online devices, as well as process data sources. Select the System 1 Premium+ option to add support for portable data collectors.

System 1 Advanced

Provides connectivity to Bently Nevada's scanning and wireless devices, as well as process data sources. Select the System 1 Advanced+ option to add support for portable data collectors.

System 1 Fundamental

Provides connectivity to Bently Nevada's portable data collectors.

Package	Online Continuous CM	Scanning & Process CM	Portable CM	Replication	Performance
Premium+	✓	✓	✓		
Premium	✓	✓			
Advanced+		✓	✓		
Advanced		✓			
Fundamental			✓		
Replication				✓	
Performance					✓

System 1 Premium [Highly Critical]

Premium Package	
Perpetual	**Subscription**
3071/10 System 1 Software Premium Package	3072/10 System 1 Software Premium Package

A: Software Package		A: Purchase Type	
01	Premium Package	01	New(first time purchase)
02	Premium+ Package	02	Renewal
B: Quantity of Display Clients		**B: Term (Subscription Term in Years)**	

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Premium Package			
Perpetual		**Subscription**	
01	Single Client Package	##	Numeric Entry (1 –>5 years)
05	Small Package [6 Clients]	**C: Software Package**	
10	Medium Package [11 Clients]	01	Premium Package
15	Unlimited Clients	02	Premium + Package
C: Quantity of Server Licenses		**D: Quantity of Display Clients**	
Qty #	1 –>n	01	Single Client Package
		05	Small Package [6 Clients]
		10	Medium Package [11 Clients]
		15	Unlimited Clients
		E: Quantity of Server Licenses	
		Qty #	1 –>n

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System 1 Advanced [Critical]

Advanced Package			
Perpetual		**Subscription**	
3071/05 System 1 Software Advanced Package		3072/05 System 1 Software Advanced Package	
A: Software Package		**A: Purchase Type**	
01	Advanced Package	01	New (first time purchase)
02	Advanced+ Package	02	Renewal
B: Quantity of Display Clients		**B: Term (Subscription Term in Years)**	
01	Single Client Package	##	Numeric Entry (1 ->5 years)
05	Small Package [6 Clients]	**C: Software Package**	
10	Medium Package [11 Clients]	01	Advanced Package
15	Unlimited Clients	02	Advanced+ Package
C: Quantity of Server Licenses		**D: Quantity of Display Clients**	
Qty #	1 ->n	01	Single Client Package
		05	Small Package [6 Clients]
		10	Medium Package [11 Clients]
		15	Unlimited Clients
		E: Quantity of Server Licenses	
		Qty #	1 ->n

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System 1 Fundamental [Less Critical]
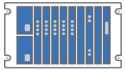
Fundamental Package	
Perpetual	**Subscription**
3071/01 System 1 Software Fundamental Package	3072/01 System 1 Software Fundamental Package

A: Quantity of Display Clients		**A: Purchase Type**	
01	Single Client Package	01	New (first time purchase)
05	Small Package [6 Clients]	02	Renewal
10	Medium Package [11 Clients]	**B: Term (Subscription Term in Years)**	
15	Unlimited Clients	##	Numeric Entry (1 ->5 years)
B: Quantity of Server Licenses		**C: Quantity of Display Clients**	
Qty #	1 ->n	01	Single Client Package
		05	Small Package [6 Clients]
		10	Medium Package [11 Clients]
		15	Unlimited Clients
		D: Quantity of Server Licenses	
		Qty #	1 ->n

Device Ordering

3500 Series Device Import

📝 **Quantity (Qty) is the number of racks.**

3500 Series Device Import			
Perpetual		**Subscription**	
3071/11 3500 Series Device Import		3072/11 3500 Series Device Import	
A: 3500 Devices – Turbomachinery		**A: Purchase Type**	
Qty #	0 ->n	01	New (first time purchase)
	Monitor turbomachinery and hydro turbine generators. Also monitor general purpose machines when slots available in device.	02	Renewal
B: 3500 Devices – General Machines		**B: Term (subscription term in years)**	
Qty #	0 ->n	##	Numeric Entry (1 -

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3500 Series Device Import		
Perpetual	**Subscription**	
		>5 years)
![3500 rack] Monitor general purpose machines. Also monitor turbomachinery or reciprocating compressors when SUSD data not required.	**C: 3500 Devices - Turbomachinery**	
C: 3500 Devices - Recip Machines	Qty #	(Qty # 0->n)
Qty # 0 ->n	**D: 3500 Devices - General Machines**	
![3500 rack] Monitor reciprocating compressors. Also monitor turbomachinery and general purpose machines when slots available in device.	Qty #	(Qty # 0->n)
D: TDI Secure Devices [/42E /45E /PV]	**E: 3500 Devices - Recip Machines**	
Qty # 0 ->n	Qty #	(Qty # 0->n)
![TDI device] Recommended for monitoring machines that cannot be natively connected to System 1 via standard devices (3rd party HW, Cyber, etc.) • 24Vib + 24 Process points + 4 Tachs	**F: TDI Secure Devices**	
	Qty #	(Qty # 0->n)

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Table 1: (A-C and E Options) 3500 Turbo, General, Recip and Hydro Racks

Type of Data	Monitor/Data	Description	AA	BB	CC
Supported Monitors	3500/22	TDI	X	X	X
	3500/25	Keyphasor	X	X	X
	3500/32	Relay 4-ch	X	X	X
	3500/33	Relay 16-ch	X	X	X
	3500/40	TSI	X	X	X
	3500/42	Extended TSI	X	X	X
	3500/44	Aeroderivative	X	X	X
	3500/45	Position	X	X	X
	3500/46	Hydro Turbine/Generator	X		
	3500/50	Tachometer	X	X	X
	3500/60-/61	Temperature	X	X	X
	3500/62	Process Variable	X	X	X
	3500/64	Dynamic Pressure	X	X	X
	3500/65	Temperature 16-ch	X	X	X
	3500/70	Recip Impulse/Velocity		X	X
	3500/72	Recip Rod Drop/Position		X	X
	3500/77	Recip Cylinder Pressure			X
Data Types	SUSD	Transient Data	X		X
	ALARM	Alarm Data	X	X	X
	WF	Waveform Data	X	X	X
	TRND	Trend Steady State	X	X	X

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Orbit 60 Series Device Import

Orbit 60 Series Device Import			
Perpetual		**Subscription**	
3071/18 Orbit 60 Series Device Import		3072/18 Orbit 60 Series Device Import	
A: License		**A: Purchase Type**	
01	New License	01	New (first time purchase)
02	Existing License Transfer	02	Renewal
B: System Type		**B: Term (subscription term in years)**	
00	Category A - Continuous online protection	##	Numeric Entry (1 -> 5 years)
01	Category B - Periodic monitoring	**C: License**	
02	Category C - Plantwide monitoring	01	New License
C: System Size		02	Existing License Transfer
01	1-20 Dynamic and 6 Process	**D: System Type**	
02	21-40 Dynamic and 12 Process	00	Category A - Continuous online protection
03	41-60 Dynamic and 18 Process	01	Category B - Periodic monitoring
04	61-80+ Dynamic and 24+ Process	02	Category C - Plantwide monitoring
		E: System Size	
		01	1-20 Dynamic and 6 Process
		02	21-40 Dynamic and 12 Process
		03	41-60 Dynamic and 18 Process
		04	61-80+ Dynamic and 24+ Process

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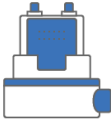
Distributed Device Series Import

Distributed Device Series Import			
Perpetual		**Subscription**	
3071/12-AA Distributed Device Import		3072/12-AA Distributed Device Import	
A: ADAPT 3701 /40 /44 /46		**A: Purchase Type**	
Qty #	1 ->n	01	New (first time purchase)
	• 12 simultaneous monitoring points + 2 Tachs • 1 sec trend / 10 min waveform data capture • High res alarm and SUSD data capture	02	Renewal
		B: Term (subscription term in years)	
		##	Numeric Entry (1 ->5 years)
		C: ADAPT Monitoring Devices	
		Qty #	(Qty # 1 ->n)

Condition Monitoring & Basic Protection Device

Condition Monitoring & Basic Protection Device Import			
Perpetual		**Subscription**	
3071/13 Condition Monitoring & Basic Protection Device		3072/13 Condition Monitoring & Basic Protection Device	
A: vbOnline Pro Monitoring Device		**A: Purchase Type**	
Qty #	0 ->n	01	New (first time purchase)
	• 12 simultaneous monitoring points + 2 tachs • 30 sec trend / 10 min waveform data capture • Simultaneous Alarm Snapshot (1 per 30 sec)	02	Renewal
B: 2300 Monitoring Device		**B: Term (Subscription term in years)**	
Qty #	0 ->n	##	Numeric Entry (1 -> 5 years)
	• 2 simultaneous monitoring points + 1 tach • 1 sec trend / 10 min waveform data capture	**C: vbOnline Pro Devices**	
C: Ranger Pro Device		Qty #	(Qty #0->n)

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Condition Monitoring & Basic Protection Device Import			
Perpetual		**Subscription**	
Qty #	0 ->n	**D: 2300 Series Monitoring Devices**	
	• Single axis: 1 accel point + 1 temperature • Triaxial: 3 accel points + 1 temperature point • 10 min trend / 6 hour waveform data capture	Qty #	(Qty #0->n)
D: Trendmaster TIMs		**E: Ranger Pro Devices**	
Qty #	0 ->n	Qty #	(Qty #0->n)
	Supported Cards • 149776-01 10/100 base T • 149776-02 Fiber Optic	**F: Trendmaster TIMs**	
	Supported Module and Point Types ProTIM (Programmable Transducer Interface Module) • Accel to Velocity Point • Low Frequency Accel to Velocity Point • Rack Buffer Output ProTIM • Temperature Point: 2-3 wire Platinum RTD • Temperature Point: 4 wire RTD • Speed Input: Keyphasor • Displacement Point • Pressure Point • Accel to Velocity with Enveloping FlexiTIM • Accel to Velocity FlexiTIM • 100 Ohm Platinum RTD FlexiTIM • J TC FlexiTIM • K TC FlexiTIM TIM • Displacement TIM	Qty #	0 ->n

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Condition Monitoring & Basic Protection Device Import	
Perpetual	**Subscription**
- Keyphasor TIM - Process TIM - Rack Buffered Output TIM - Temperature - J TC Flexi TIM - Temperature - K TC Flexi TIM - Velocity TIM 1900 Monitors 1900/25 Velocity Monitor 1900/55 Fan Monitor	

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Process Data Import

Process Data Import			
Perpetual		**Subscription**	
3071/14 Process Data Import		3072/14 Process Data Import	
A:OPC DA / UA Server Import - Static Data		**A: Purchase Type**	
Qty #	1 ->n	01	New (first time purchase)
	• OPC DA Includes up to 15,000 tags for a System 1 Server (max 15,000 combined OPC DA and Modbus) • Supports setpoints imported as OPC tags (Up to 60,000 tags) • 1 sec trend data capture	02	Renewal
	• OPC UA Import (up to 40,000 tags) • 1 sec trend data capture		
B:Modbus Import - Static Data		**B: Term (Subscription term in years)**	
Qty #	1 ->n	##	Numeric Entry (1 ->5 years)
	• Includes up to 200 Modbus devices • Includes up to 15,000 tags for a System 1 Server (max 15,000 combined OPC DA and Modbus) • Supports Dynamic Setpoints (Up to 30,000 tags) (Postgres Database only) • 1 sec trend data capture for process and Enum points • 200 ms collection rate for 20% of the Modbus points (Postgres Database only)	**C:OPC DA and OPC UAServer Import**	
		Qty #	1 ->n
		D: Modbus Import	
		Qty #	1 ->n

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Process Data Export

Process Data Export			
Perpetual		**Subscription**	
3071/15 Process Data Export		3072/15 Process Data Export	
A: OPC DA Server Export (1 per server) **(Max 10,000 tags export supported)**		**A: Purchase Type**	
Qty #	1 –>n	01	New (first time purchase)
OPC DA	• Export static data via OPC DA protocol for online tags for a S1 server. • Export rates configurable by client.	02	Renewal
B: OPC UA Server Export - Waveforms (1 per server)		**B: Term (Subscription term in years)**	
Qty #	1 –>n	##	Numeric Entry (1 –>5 years)
OPC UA	• Maximum number of exported waveform tags per for a System 1 database is 3000 waveforms tags (combination of synchronous and asynchronous waveforms). • Waveforms - 10 minute intervals or at device rate interval.	**C: OPC DA Server Export**	
		Qty #	1 –>n
		D: OPC UA Server Export - Waveforms	
		Qty #	1 –>n
C: OPC UA Server Export - Static Data (1 per server)		**E: OPC UA Server Export - Static Data**	
Qty #	1 –>n • Static tags - 1 second interval or at device rate.	Qty #	1 –>n
D: OPC UA Server Export - Alarm Events (1 per server)		**F: OPC UA Server Export - Alarm Events**	
Qty #	1 –>n • Events - exported as soon as new alarm events are logged in System 1.	Qty #	1 –>n

> ✎ It is recommended to meet the standard server specification for performing OPC UA export from five online portable databases on a single System 1 Server.

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Database Replication

Database Replication			
Perpetual		**Subscription**	
3071/16 System 1 Replication		3072/16 System 1 Replication	
A: Tx Server(s) (Total SW License Price of Tx Server)		**A: Purchase Type**	
##	Numeric entry (in local currency)	01	New (first time purchase)
	• Conduit to move data to the business network • Contains config info and connection to devices	02	Renewal
B: Rx Server(s)		**B: Term (Subscription term in years)**	
Qty #	1 -> 8	##	Numeric Entry (1 ->5 years)
	• Database mirroring S1 server on Plant Network • Supports 80-90% of condition monitoring tasks	**C: Total SW License Price of Tx Server(s)**	
		##	(Qty # 1->8)
		D: Quantity of Rx Server Licenses	
		##	(Qty # 1->8)

> 🖊️ A standard server specification can support one to five replications. For six to eight replications, it is recommended to have SSD on the Rx server.

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Performance Monitoring

Performance Monitoring			
Perpetual		**Subscription**	
3071/17 System 1 Performance		3072/17 System 1 Performance	
A: Complex Machines		**A: Purchase Type**	
Qty #	0 ->n Expander Recompressor, Gas Turbine, Side Stream Compressor Counts per stage/casing	01	New (first time purchase)
		02	Renewal
B: Simple Machines		**B: Term (Subscription term in years)**	
Qty #	0 ->n Pump, Compressor, Steam Turbine, Fan, Expander, Generator, Heat Exchanger	##	Numeric Entry (1 ->5 years)
		C: Complex Machines	
		Qty #	0 ->n
C: S1 Servers with Performance (Excel licenses)		**D:Simple Machines**	
Qty #	0 ->n	Qty #	0 ->n
		E: S1 Servers with Performance	
		Qty #	0 ->n
D: Predictive Emissions Monitoring System (PEMS)		**F : Predictive Emissions Monitoring System (PEMS)**	
Qty #	0 ->n	Qty #	0 ->n
E. Purchase Type		**G. Industry**	
01	New	00	Baseline
02	Expansion	01	O&G Upstream
F. Industry		02	O&G Midstream
00	Baseline	03	O&G Downstream
01	O&G Upstream	04	Petrochemical
02	O&G Midstream	05	LNG Liquefaction
03	O&G Downstream	06	Power Gen Nuclear/Thermal
04	Petrochemical	07	Other Markets
05	LNG Liquefaction		

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Performance Monitoring			
Perpetual		**Subscription**	
06	Power Gen Nuclear/Thermal	08	Power Gen Hydro
07	Other Markets		
08	Power Gen Hydro		

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Decision Support

Decision Support	
Perpetual	**Subscription**
3071/51 System 1 Decision Support	3072/51 System 1 Decision Support

A: Core Package (n = max. number of packages)		**A: Purchase Type**	
Qty #	0 ->n	01	New (first time purchase)
	Includes one Decision Support engine and rule writing capability for up to 40 rule results for a single System 1 database.	02	Renewal
B: Developer Package		**B: Terms (Years)**	
Qty #	0 ->n	##	Numeric Entry (1 ->5 years)
	Includes one Decision Support engine and rule writing capability for maximum rule results for a single System 1 database.	**C: Core Package (n = max. number of packages)**	
C: Upgrade from Decision Support Core Package to Decision Support Developer Package		Qty #	0 ->n
Qty #	0 ->n		Includes one Decision Support engine and rule writing capability for up to 40 rule results for a single System 1 database.
		D: Developer Package	
		Qty #	0 ->n
			Includes one Decision Support engine and rule writing capability for maximum rule results for a single System 1 database..
		E: Upgrade from Decision Support Core Package to Decision Support Developer Package	
		Qty #	0 ->n

> Decision Support and InsightPak Analytics work only with databases using PostgreSQL. Decision Support applied to a targeted Rx server will support a maximum of 8 Rx replicated databases with a maximum of 2,000 results per database. Results may come from InsightPak analytics and / or custom analytics.

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InsightPak Analytics

InsightPak™ Analytics				
Perpetual		**Subscription**		
3071/53 InsightPak Analytics		3072/53 InsightPak Analytics		
A: Qty of CAT-A Assets		**A: Purchase Type**		
Qty #	0 ->n	01	New (first time purchase)	
B: Qty of CAT-B Assets		02	Renewal	
Qty #	0 ->n	**B: Terms (Years)**		
C: Qty of CAT-C Assets (future)		##	Numeric Entry (1 ->5 years)	
Qty #	0	**C: Qty of CAT-A Assets**		
D: Qty of CAT-D Assets (future)		Qty #	0 ->n	
Qty #	0	**D: Qty of CAT-B Assets**		
E: Functionality		Qty #	0 ->n	
01	InsightPaks	**E: Qty of CAT-C Assets (future)**		
F: Server/DB Qty		Qty #	0	
Qty #	0 ->n	**F: Qty of CAT-D Assets (future)**		
G: Industry		Qty #	0	
01	Oil & Gas Upstream	**G: Functionality**		
02	Oil & Gas Midstream	01	InsightPaks	
03	Oil & Gas Downstream	**H: Server/DB Qty**		
04	Petrochemical	Qty #	0 ->n	
05	LNG Liquefaction	**I: Industry**		
06	Power Gen Nuclear/Thermal	01	Oil & Gas Upstream	
07	Other Markets	02	Oil & Gas Midstream	
08	Power Gen - Hydro	03	Oil & Gas Downstream	
		04	Petrochemical	
		05	LNG Liquefaction	
		06	Power Gen Nuclear/Thermal	
		07	Other Markets	
		08	Power Gen - Hydro	

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System 1 Expansion

System 1 Expansion			
Perpetual		**Subscription**	
3071/25 System 1 Software Expansion		3072/25 System 1 Software Expansion	
A: Package Upgrade		**A: Purchase Type**	
00	None	01	New(first Time Purchase)
01	Fundamental ->Advanced+	02	Renewal
02	Fundamental ->Premium+	**B: Term (Subscription Term in Years)**	
03	Advanced ->Advanced+	##	Numeric Entry (1 ->5 years)
04	Advanced ->Premium	**C: Package Upgrade**	
05	Advanced ->Premium+	00	None
06	Advanced+->Premium+	01	Fundamental->Advanced+
07	Premium -> Premium+	02	Fundamental->Premium+
B: Client Expansion		03	Advanced->Advanced+
00	None	04	Advanced->Premium
05	Small Package [6 Clients]	05	Advanced->Premium+
10	Medium Package [11 Clients]	06	Advanced+->Premium+
15	Unlimited Clients	07	Premium -> Premium+
C: Server License Expansion		**D: Client Expansion**	
00	None	00	None
01	Fundamental Server License	05	Small Package [6 Clients]
05	Advanced Server License	10	Medium Package [11 Clients]
10	Premium Server License	15	Unlimited Clients
		E: Server License Expansion	
		00	None
		01	Fundamental Server License
		05	Advanced Server License
		10	Premium Server License

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Software Maintenance and Support (M&S)

System 1 Maintenance and Support (M&S) provides access to the latest platform upgrades through a simplified web portal interface.

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

> System 1 version 6.x, Ascent and ADAPT.wind customers with active M&S qualify for an upgrade to the latest System 1 platform at no additional cost. To receive an upgrade, include product 3071/65.

Maintenance and Support

3071/20 System 1 Maintenance & Support		
A: M&S Support Level		
00	Basic Support	
01	Essential Support	
02	Premier Support	
	Anti-virus Option (only in Premier Support)	
	01	Symantec
	02	McAfee
	03 Total # of Computers	
B: M&S Term		
##	Numeric Entry (1 –>5 years)	
C: System 1 Products Covered under M&S Agreement		
01	System 1 (3071)	
02	System 1 (3060)	
03	Enterprise Impact	
04	ADRE SXP	
05	Bently Balance	
D: Total System 1 Software License Price		

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3071/20 System 1 Maintenance & Support	

Software value at customer site to be covered by M&S Agreement

##	Numeric Entry [In Local Currency]

E: Customer Agreement Number (CAN)

##	Text Entry (Ex: CAN1631)

F: Software Contact First Name

##	Text Entry (Ex. John)

G: Software Contact Last Name

##	Text Entry (Ex: Smith)

H: Software Contact Email Address

##	Text Entry (Ex. John.smith@bently.com)

I: M&S Order Type

01	New [New Customer]
02	Renewal [Returning M&S Customer]
03	Expansion [Pre-Existing M&S Customer adding additional software]

> Seller may maintain a de-identified (anonymized/pseudonymized) copy of the Condition Monitoring system database for purposes of customer training and use case demonstrations, unless otherwise negotiated.

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System 1 Software Platform Upgrade

> ✏️ System 1 version 6.x and Ascent customers with active M&S qualify for an upgrade to the latest System 1 platform at no additional cost. To receive an upgrade, include product 3071/65.

3071/65 System 1 Platform Upgrade	
A: Customer Agreement Number (CAN)	
##	Text entry [CAN######]
B: Software Package Upgrade	
01	System 1 v6.x
02	Ascent 2015
03	ADAPT.wind
C: New Software Package **(Options 1-6 available for S1 v6.x upgrade, options 3-5 available for Ascent upgrade, and option 7 only for ADAPT.wind upgrade)**	
01	Premium+
02	Premium
03	Advanced+
04	Advanced
05	Fundamental
06	Power Generation
07	Wind
08	Performance Monitoring
09	Decision Support - Core
D: Quantity of Display Clients (not available for C options 08 or 09)	
01	Single client
05	Small package (6 clients)
10	Medium package (11 clients)
15	Unlimited Clients
E: Quantity of Server Licenses (DAQs)	
Qty #	1 ->n

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3071/65 System 1 Platform Upgrade

F: Historical Data Migration

01	Yes [System 1 v6.81+ and Ascent v2015]
02	No

G: Qty of 3500 Devices - Turbomachinery & Hydro (available for C options 01-04 only)

Qty #	Numeric entry [0->n]

H: Qty of 3500 Devices - General Machines (available for C options 01-04 only)

Qty #	Numeric entry [0->n]

I: Qty of 3500 Devices - Recip Machines (available for C options 01-04 only)

Qty #	Numeric entry [0->n]

J: Qty of TDI Secure Devices (available for C options 01-04 only)

Qty #	Numeric entry [0->n]

K: Qty of OPC DA/UA (Static Data) Import Licenses (1 per server) (available for C options 01-04 only)

Qty #	Numeric entry [0->n]

L: Qty of OPC DA/UA (Static Data) Export Licenses (1 per server) (available for C options 01-04 only)

Qty #	Numeric entry [0->n]

M: Qty of Trendmaster TIMs (equals 3071/13-DD) (available for C options 01-04 only)

Qty #	Numeric entry [0->n]

N: Qty of Complex Machines (equals 3071/17-AA) (Performance Monitoring option only)

Qty #	Numeric entry [0->n]

O: Qty of Simple Machines (equals 3071/17-BB) (Performance Monitoring option only)

Qty #	Numeric entry [0->n]

P: Qty of Predictive Emissions Monitoring Systems (PEMS) (equals 3071/17-CC) (Performance Monitoring option only)

Qty #	Numeric entry [0->n]

Q: Total Plant/Wind Farm Output (Power Gen and Wind Only)

Qty #	1 ->n

R: Qty of Modbus Import (1 per server) (available for C options 01-04 only)

Qty #	1 ->n

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3071/65 System 1 Platform Upgrade	
S: InsightPaks included (available for C option 09 only)	
01	Yes
02	No

Accessories

Accessory	BN Part Number	Description
136M4565-01	System 1 Disk	Latest version of System 1 on DVD
117M5159-01	System 1 Languages Disk	Latest version of System 1 Languages on DVD
150M1856-01	Decision Support Disk	Latest version of Decision Support on DVD

> 🖉 The 3071/30 System 1 Servers are now in a separate datasheet, see document 133M3049.

System 1 Classic Connector

Perpetual		Subscription	
3071/60 System 1 Classic Connector		3072/60 System 1 Classic Connector	
Qty #	1 ->n	**A: Purchase Type**	
	Connect to legacy Bently Nevada Devices, including, TDXNet, 1701 FMIM (Trendmaster natively supported now)	01	New (first time purchase)
		02	Renewal
		B: Term (Subscription term in years)	
		##	Numeric Entry (1 ->5 years)
		C: System 1 Classic Connector	
		Qty #	(Qty # 1 ->n) Connect to legacy Bently Nevada Devices, including TDXNet, 1701 FMIM

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Cyber Asset Protection

Includes tested, documented, scripted and securely delivered patches for supported Microsoft® Windows® operating systems, Microsoft® products and antivirus software on a monthly basis for use with System 1 servers and clients.

3072/40 System 1 Cyber Asset Protection (CAP)

A: Purchase Type

01	New (first time purchase)
02	Renewal

B: Term (Subscription term in years)

##	Numeric Entry (1 ->5 years)

C: CAP Computers (per site)

Qty #	1 ->n

D: Antivirus Product

01	Symantec
02	McAfee

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