System 1 Software

Datasheet

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
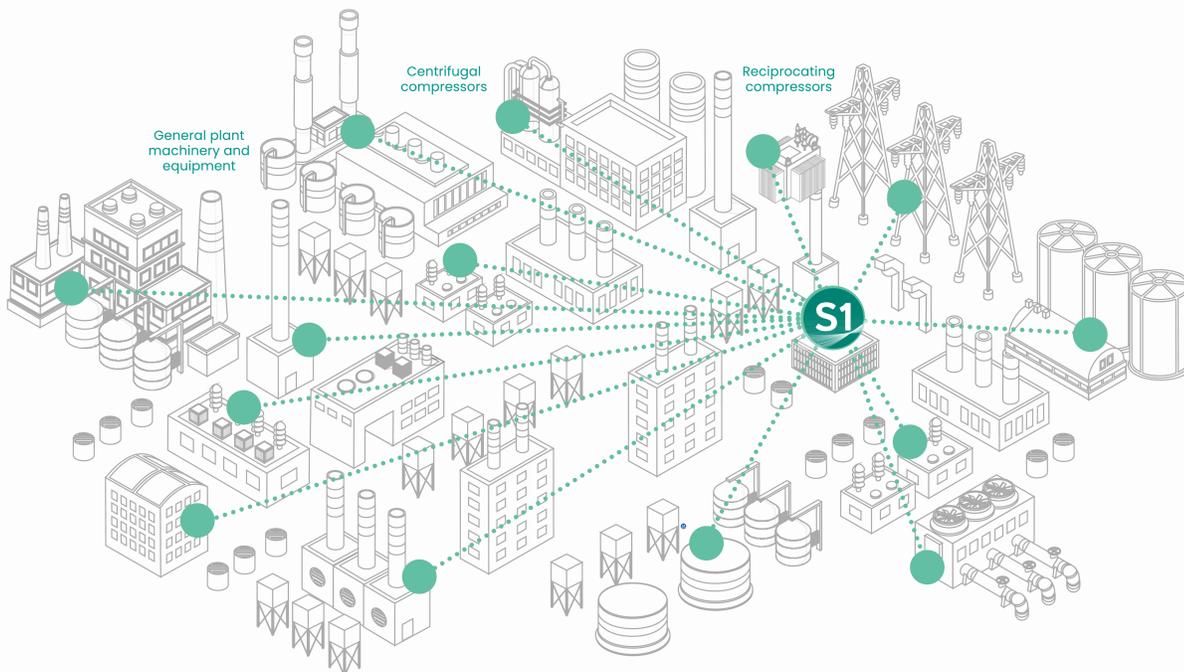
Bently Nevada has a rich heritage in helping customers solve industrial maintenance challenges that is over 60 years strong. Through user research in 25 countries with more than 500 end users, we have studied our customers' team dynamics, site processes, and technology suites to determine how System 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
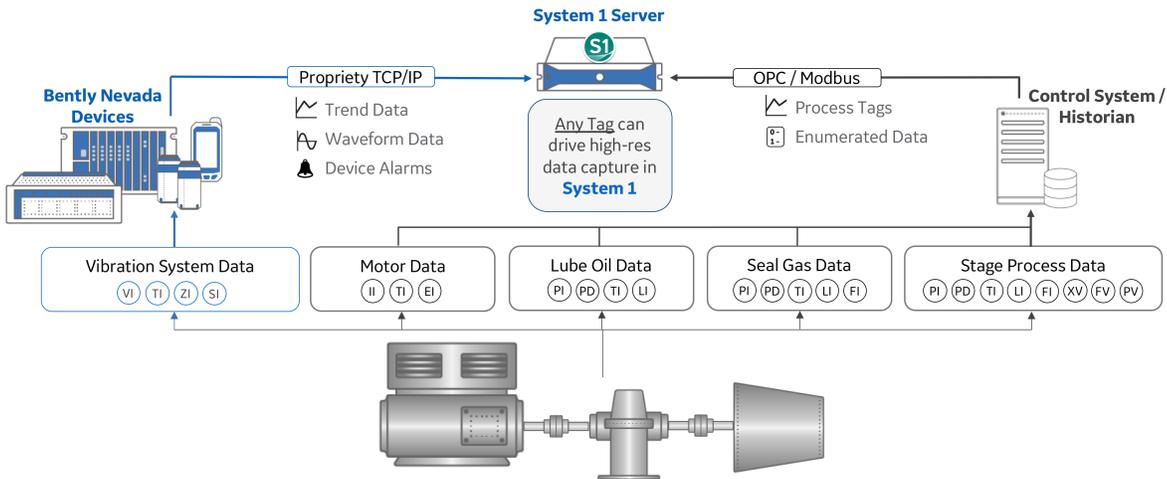
System 1 connects to data sources on the Edge and collects high resolution vibration, process, and control system data. This data can be collected at up to once-per-second from a Bently Nevada Device, such as 3500 or Ranger Pro, from a Programmable Logic Controller (PLC), or from another Historian. In 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 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.

Decision Support

Bently Performance

Visualization
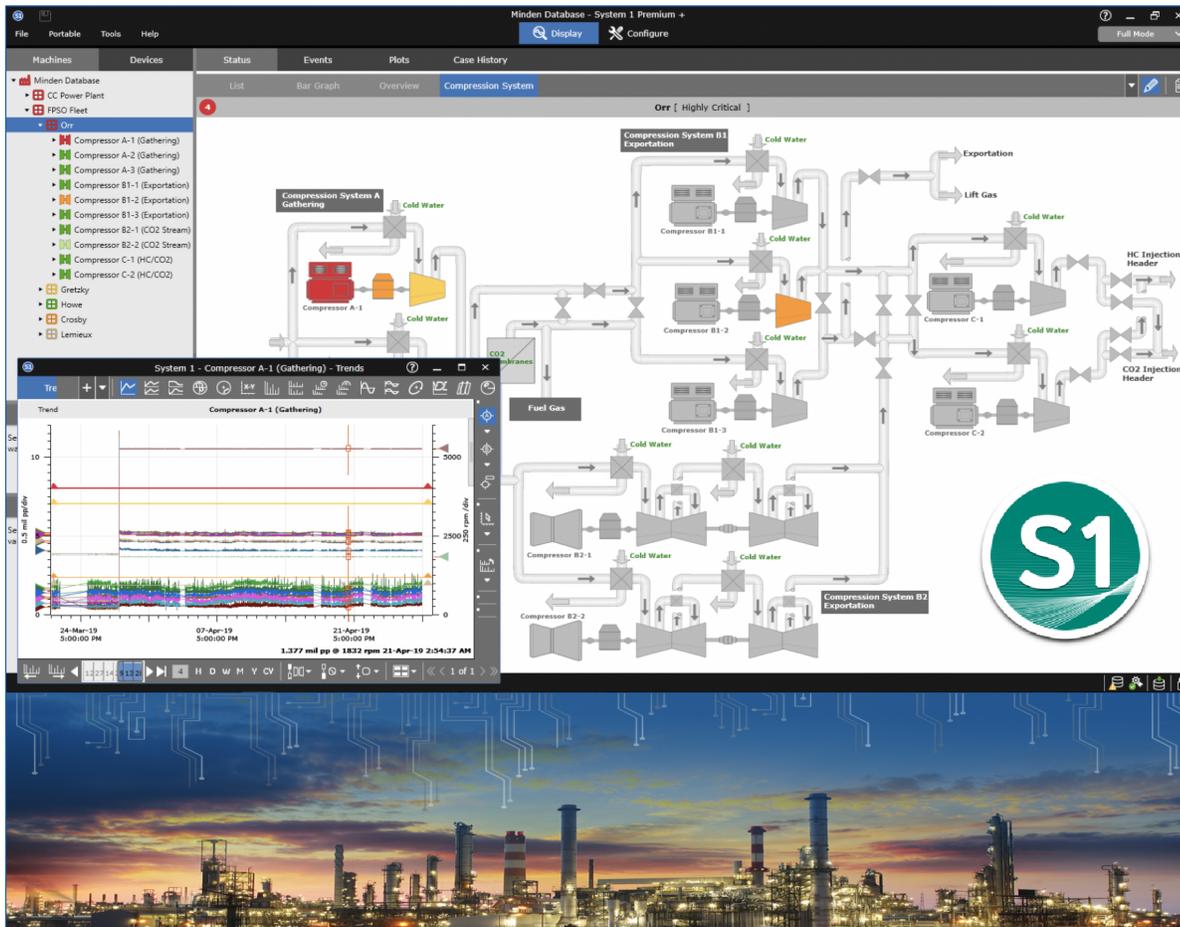
Post collection and analysis, System 1 provides best-in-class visualization tools. The HMI builder allows users to graphically represent their entire Plant System using the built-in symbol library. The HMI view graphically depicts operational health, allowing users to focus on their high priority assets. 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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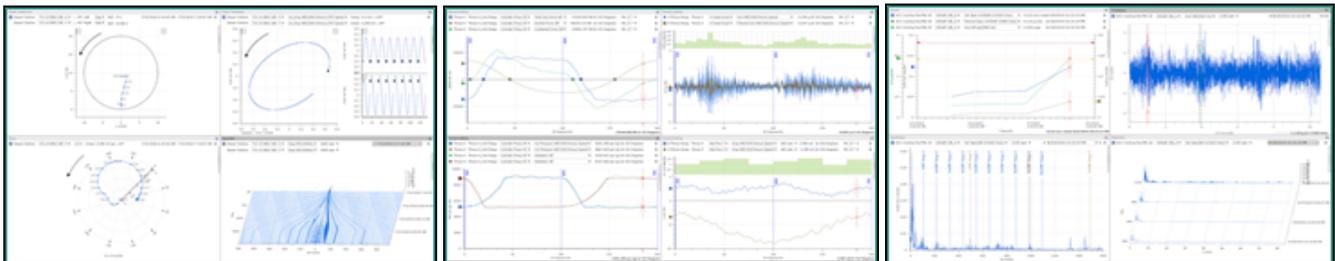
General Capabilities

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.
- Users with server administrator privileges can add new user-defined 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® 2025 Server Standard Edition 64 bit Microsoft Windows® 2022 Server Standard Edition 64 bit Microsoft Windows® 2019 Server Standard Edition 64 bit Microsoft Windows® 2016 Server Standard Edition 64 bit Microsoft Windows® 11 Pro 64 bit (23H2, 24H2)[†] Microsoft Windows® 10 Pro 64 bit (22H2)[†] † 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.
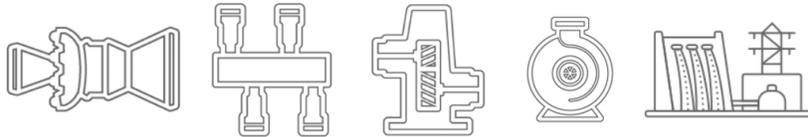
Industry-Based: Order by application industry and size. Includes unlimited data import across all devices.

Device-Based: Order by type and quantity of devices.
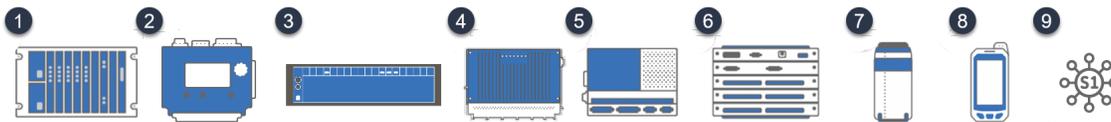
1 = 3500
2 = 2300
3= Orbit 60
4 = Orbit DCM
5 = vbOnline Pro
6 = TrendMaster
7 = RangerPro
8 = SCOUT
9 = Process Data Import/Export (Examples: OPC DA/UA, MODBUS)

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

- Upfront Capex investment (One-time License).
- Must purchase M&S for technical support and software updates (smaller year-over-year investment via OPEX).
- License itself does not expire. Technical support and software updates cease without M&S coverage.
- License tied to generation of software platform for which perpetual license acquired (life cycle documented by vendor's).

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Subscription Type

- No upfront Capex investment (year-over-year subscription via OPEX).
- Subscription license fee includes Maintenance and Support (M&S) at no extra fee.
- License expires after 30 days grace period if not renewed.
- License is not tied to a product generation/lifecycle i.e. annual subscription updates provide license entitlement to vendor's next-gen platform.

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.

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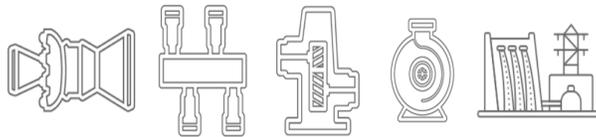
Asset-Based Packages are ordered by condition monitoring asset criticality and quantity, with four asset categories:

Category A Assets

- High criticality assets
- Dedicated online continuous monitoring & protection

Category B Assets

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- 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

Package	Online Continuous Mopnitoring & Protection[1]	Shared Monitoring & Protection or Dedicated Scanning & Process CM[2]	Shared Scanning CM or dedicated distributed solution3	Offline Portable[4]	Replication	Static Data Import/Export	Modbus Import	Waveform Export
Asset A	✓	✓	✓	✓				
Asset B		✓	✓	✓				
Asset C			✓	✓				
Asset D				✓				
CMS Core						✓	✓	

1 Dedicated 3500 rack

2 Typically shared 3500 rack or dedicated Orbit DCM/vbOnline Pro/TrendMaster

3 Typically 2300/1900/Ranger Pro or shared Orbit DCM/vbOnline Pro/TrendMaster

4 SCOUT and vbX Series portables for offline periodic monitoring

Asset-Based Packages			
Perpetual		**Subscription**	
3071/75 System 1 Asset Package		3072/75 System 1 Asset Package	
A: Category A Assets		A: Purchase Type	
Qty #	0 - n	01	New (First time purchase)
		02	Renewal
		03	Expansion
B: Category B Assets			
Qty #	0 - n	B: Term (Subscription Term in Months)	
C: Category C Assets		##	Numeric Entry (1 - 60 Months) **Note**: New and Renewal orders should be made in 12-month increments.

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Asset-Based Packages			
Perpetual		**Subscription**	
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
01	Included	**E: Category C Assets**	
02	Expansion Order	Qty #	0 – n
F: Not Applicable		**F: Category D Assets**	
		Qty #	0 – n
G: Quantity of Server Licenses		**G: CMS Core**	
##	Numeric Entry [1 – 25]	01	Included
00	Expansion Order Only	02	Expansion Order
H: Industry		**H: Not Applicable**	
01	Oil & Gas Upstream		
02	Oil & Gas Midstream	**I: Quantity of Server Licenses**	
03	Oil & Gas Downstream	##	Numeric Entry [1 – 25]
04	Petrochemical	00	Expansion Order Only
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

Industry-Based Packages

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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	03	Expansion
04	Wastewater	**B: Term (Subscription Term in Months)**	
05	Drilling Rigs	##	Numeric Entry (1 – 60 Months) **Note**: New and Renewal orders should be made in 12-month increments.
06	Steel Production	**C: Industry Type**	
07	Food & Beverage	01	Pulp and Paper
08	Manufacturing	02	Air Separation
09	Pharmaceuticals	03	Sugar Production
10	Marine Vessel	04	Wastewater
11	Mining	05	Drilling Rigs
		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

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General Industrial Package		
Perpetual	**Subscription**	
	02	Medium Database
	03	Large Database
	04	Extra Large Database
	E: Quantity of Server Licenses	
	##	Numeric Entry [1 – 25]

> ✏️ *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
		03	Expansion
B: Plant Output (MW) - Not Fleet or Multi-Site		**B: Term (Subscription Term in Months)**	
##	Numeric Entry [0 – 30,000 MW]	##	Numeric Entry (1 – 60 Months) **Note**: New and Renewal orders should be made in 12-month increments.
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)
		02	Renewal
B: Quantity of Server Licenses		03	Expansion
##	Numeric Entry [1 - 25]	**B: Term (Subscription Term in Months)**	
C: License Type		##	Numeric Entry (1 - 60 Months) **Note**: New and Renewal orders should be made in 12-month increments.
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
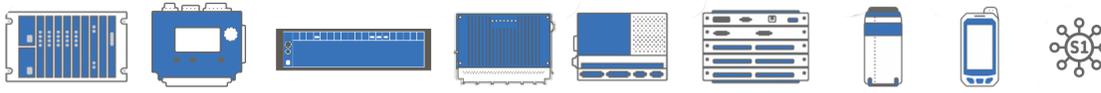
Device-Based Packages are ordered by base package, device type, and quantity. Base packages are:

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 Months)	

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Premium Package			
Perpetual		**Subscription**	
01	Single Client Package	##	Numeric Entry (1 – 60 Months) **Note**: New and Renewal orders should be made in 12-month increments.
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 Months)**	
01	Single Client Package	##	Numeric Entry (1 - 60 Months) **Note**: New and Renewal orders should be made in 12-month increments.
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 Months)**	
15	Unlimited Clients	##	Numeric Entry (1 - 60 Months) **Note**: New and Renewal orders should be made in 12-month increments.
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

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System 1 Expansion

> ✏️ For 3071 and 3072; /01, /05, and /10, when expanding Package Capability or Client Device count, utilize the below part numbers 3071/25 and 3072/25. This applies only to the device based commercial model.

System 1 Expansion - Device Based			
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
		03	Expansion
02	Fundamental – Premium+	**B: Term (Subscription Term in Months)**	
03	Advanced – Advanced+	##	Numeric Entry (1 – 60 Months) **Note**: New and Renewal orders should be made in 12-month increments.
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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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
		03	Expansion
B: 3500 Devices - General Machines		**B: Term (Subscription Term in Months)**	
Qty #	0 - n	##	Numeric Entry (1 - 60 Months) **Note**: New and Renewal orders should be made in 12-month increments.
	Monitor general purpose machines. Also monitor turbomachinery or reciprocating compressors when SUSD data not required.		
C: 3500 Devices - Recip Machines		**C: 3500 Devices - Turbomachinery**	
Qty #	0 - n	Qty #	(Qty # 0 - n)
	Monitor reciprocating compressors. Also monitor turbomachinery and general purpose machines when slots available in device.		
D: TDI Secure Devices [/42E /45E /PV]		**D: 3500 Devices - General Machines**	
Qty #	0 - n	Qty #	(Qty # 0 - n)
	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		
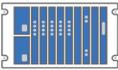
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3500 Series Device Import			
Perpetual		**Subscription**	
		E: 3500 Devices - Recip Machines	
		Qty #	(Qty # 0 - n)
		F: TDI Secure Devices	
		Qty #	(Qty # 0 - n)

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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	Upgrade from 3500 Device	02	Renewal
		03	Expansion
B: System Type		**B: Term (Subscription Term in Months)**	
00	Category A - Continuous online protection	##	Numeric Entry (1 – 60 Months) **Note**: New and Renewal orders should be made in 12-month increments.
01	Category B - Periodic monitoring	**C: License**	
02	Category C - Plantwide monitoring	01	New License
C: System Size		02	Upgrade from 3500 Device
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

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: Orbit DCM/vbOnline Pro Monitoring Device	**A: Purchase Type**

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Condition Monitoring & Basic Protection Device Import			
Perpetual		**Subscription**	
Qty #	0 - n	01	New (first time purchase)
	Orbit DCM • 16 Channel Vibration + 4 Keyphasors • Trend static and waveform data • High Resolution Alarm Data Capture • Transient Data Capture		
	vbOnline Pro • 12 simultaneous monitoring points + 2 tachs • 30 sec trend / 10 min waveform data capture • Simultaneous Alarm Snapshot (1 per 30 sec)	02	Renewal
		03	Expansion
B: 2300 Monitoring Device		**B: Term (Subscription Term in Months)**	
Qty #	0 - n	##	Numeric Entry (1 - 60 Months) **Note**: New and Renewal orders should be made in 12-month increments.
	• 2 simultaneous monitoring points + 1 tach • 1 sec trend / 10 min waveform data capture		
C: Ranger Pro Device		**C: Orbit DCM/vbOnline Pro Devices**	
Qty #	0 - n	Qty #	(Qty #0 - n)
	• Single axis: 1 accel point + 1 temperature • Triaxial: 3 accel points + 1 temperature point • 10 min trend / 6 hour waveform data capture		
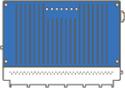
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Condition Monitoring & Basic Protection Device Import			
Perpetual		**Subscription**	
D: Trendmaster TIMs		**D: 2300 Series Monitoring Devices**	
Qty #	0 - n	Qty #	(Qty #0 - n)
	Supported Cards • 149776-01 10/100 base T • 149776-02 Fiber Optic		
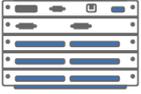
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Condition Monitoring & Basic Protection Device Import	
Perpetual	**Subscription**
Supported Module and Point Types ProTIM (Programmable Transducer Interface Module) • Accel to Velocity Point • Low Frequency Accel to Velocity Point • Rack Buffer Output 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 • 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	
	E: Ranger Pro Devices
	Qty # (Qty #0 – n)

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Condition Monitoring & Basic Protection Device Import			
Perpetual		**Subscription**	
		F: Trendmaster TIMs	
		Qty #	(Qty #0 – n)

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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/Waveform 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 includes up to 40,000 static tags, 2000 Asynch waveform tags • Includes up to 200 Process or Enum groups. • Each Process group includes up to 1000 static tags and 100 Asynch waveforms. • Each Enum group includes up to 1000 enum tags. • Supports up to 5000 Asynch waveforms per enterprise per server. • 1 sec static trend data capture • 10 minute waveform data capture		
		03	Expansion
B:Modbus Import - Static Data		**B: Term (Subscription Term in Months)**	
Qty #	1 - n	##	Numeric Entry (1 – 60 Months) **Note**: New and Renewal orders should be made in 12-month increments.

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Process Data Import	
Perpetual	**Subscription**
- 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)
	• Export static data via OPC DA protocol for online tags for a S1 server. • Export rates configurable by client.	02	Renewal
		03	Expansion
B: OPC UA Server Export - Waveforms (1 per server)		**B: Term (Subscription Term in Months)**	
Qty #	1 - n	##	Numeric Entry (1 – 60 Months) **Note**: New and Renewal orders should be made in 12-month increments.
	• 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)		
##	Numeric entry (in local currency)	To order System 1 Replication via Subscription, reference the Cordant 3073/16 Portfolio. Contact your Bently Nevada Sales Representative for more information.
	• Conduit to move data to the business network • Contains config info and connection to devices	
B: Rx Server(s)		
Qty #	1 - 8	
	• Database mirroring S1 server on Plant Network • Supports 80-90% of condition monitoring tasks	

> 🖊 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
		03	Expansion
B: Simple Machines		**B: Term (Subscription Term in Months)**	
Qty #	0 – n Pump, Compressor, Steam Turbine, Fan, Expander, Generator, Heat Exchanger	##	Numeric Entry (1 – 60 Months) **Note**: New and Renewal orders should be made in 12-month increments.
		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	
D: Not Applicable		Qty #	0 – n
Qty #	0	**F : Not Applicable**	
E. Purchase Type		Qty #	0
01	New	**G. Industry**	
02	Expansion	00	Baseline
F. Industry		01	O&G Upstream
00	Baseline	02	O&G Midstream
01	O&G Upstream	03	O&G Downstream
02	O&G Midstream	04	Petrochemical
03	O&G Downstream	05	LNG Liquefaction
04	Petrochemical	06	Power Gen Nuclear/Thermal
05	LNG Liquefaction	07	Other Markets

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

Decision Support Analytics

Decision Support Analytics			
Perpetual		**Subscription**	
3071/53 Decision Support Analytics		3072/53 Decision Support 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 (Months)**	
C: Qty of CAT-C Assets (future)		##	Numeric Entry (1 – 60 Months) **Note**: New and Renewal orders should be made in 12-month increments.
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	Decision Support Analytics	**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	Decision Support Analytics
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

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Decision Support Analytics		
Perpetual	**Subscription**	
	07	Other Markets
	08	Power Gen - Hydro

Decision Support and Decision Support 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 10,000 results per database. Results may come from Decision Support analytics and / or custom analytics.

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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

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, including Total # of Computers (Only in Premier Support)	
	01	Symantec
	02	McAfee
	03	None

B: M&S Term

##	Numeric Entry (1 – 5 years)

C: System 1 Products Covered under M&S Agreement

01	System 1 (3071)
04	ADRE SXP
02, 03, and 05	Not Applicable

D: Total System 1 Software License Price

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

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3071/20 System 1 Maintenance & Support	
##	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]

> All Anti-virus Options in Premier Support include Microsoft Defender definition updates.

> 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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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 can be added to Subscription licensing only.

3072/40 System 1 Cyber Asset Protection (CAP)	

A: Purchase Type

01	New (first time purchase)
02	Renewal

B: Term (Subscription Term in Months)

##	Numeric Entry (1 - 60 Months) **Note**: New and Renewal orders should be made in 12-month increments.

C:CAP Computers (per site)

Qty #	1 - n

D: Antivirus Product

01	Symantec
02	McAfee
03	None

> ✏️ All Anti-virus Options in 3072/40 include Microsoft Defender definition updates.

Accessories

BN Part Number	Title	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
125M9816-01	System 1 Performance Monitoring Disk	Latest version of System 1 Performance Monitoring on DVD

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

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