

# Innovate, deliver and commission your solutions faster: Dell Embedded Box PCs

Dell's heritage brings enterprise-class support, reliability and flexibility to the industrial PC market.

Embedded computers are everywhere around us. In the machine reliability system that does quality assurance in a pharma process line. In the passenger ticketing systems that enhance your journey. In the control systems that manufacture the products you use every day. In the automated retail kiosk at the airport that sells you a set of earphones.

Embedded systems, sometimes called industrial PCs (IPCs), also help run the Internet of Things (IoT), where Dell is establishing a leadership position. The cost of embedded PCs continues to fall because of innovation, competitive pressures and economies of scale. But the industry is still fragmented.

Finding reliable, ruggedized, embedded PCs is just the beginning. As a manufacturer or embedded system user, you often battle challenges from the market providers:

- High minimum quantities to accommodate long delivery times mean a larger investment in your system design and testing, as well as inventories that can become technologically stale.
- The prevailing approach is design-to-order, which can take 12 months or more to deliver units at scale. Or a configure-to-



order approach, which requires choosing from thousands of components.

- Vendors or their suppliers sometimes substitute less-reliable components, putting your mission-critical processes at risk for days of expensive downtime.
- Many suppliers avoid extended hardware warranties or expanded services and support. It's rare to find a globally available support system.

As a respected Tier 1 technology vendor, and after much customer demand, Dell knows we can change that. That's why we're bringing the industrial PC market into the mainstream with new embedded PCs.

The **Internet of Things** (IoT) is an ecosystem where sensors, devices and equipment are connected to a network and can transmit and receive data for tracking, analysis and action. Dell's approach to the IoT is a pragmatic one, and embedded computers in smart systems and other distributed networks support this approach: Start simple. Use what you have and build on it. Architect for analytics, which is the source of the IoT benefits. Begin with security. Don't install it as an afterthought.



## Introducing the Dell Embedded Box PCs 3000 and 5000.

Embedded computers must run reliably 24x7 for extended deployments, and withstand higher and lower temperatures than ordinary PCs. Industrial, telecom, vehicular other use cases can bring high amounts of shock, vibration, moisture and high electromagnetic radiation.

Dell has almost 10 years' engineering experience in rugged devices. Dell Embedded Box PCs are fanless, highly reliable devices that can be used "headless" or with a keyboard, mouse and monitor. Flexible and powerful, with many input/output options, they run on powerful

multi-core Intel® processors, which allow them to perform analysis, control and data aggregation and graphical display at the edge of the network. They communicate securely with back-end or closed-loop control systems.

Specifications for Dell Embedded Box PCs – Available Summer 2016 (unless noted)			
<b>Min operating temperature range</b>		0°- 50°C	
<b>Designed to meet</b>		MIL-STD-810G	
<b>Mounting options</b>		DIN-rail, VESA, wall mount	
<b>Operating systems</b>		Microsoft Windows 7 Pro, Windows 7 Embedded, Ubuntu desktop. <i>Available later in 2016: Windows 10 Pro, Windows 10 IoT Enterprise LTSC.</i> Talk to Dell OEM Solutions about OS choices, memory, etc.	
<b>Dell Embedded Box PC 5000 Specifications</b>	<b>Optimized for I/O scalability</b> For high-bandwidth industrial PC and IoT uses (multi-HD video streaming apps, high frequency sensor data sources) such as manufacturing, automation control, healthcare, telecom and datacom PCs. Two PCI/PCIe card slots for added functions.	<b>Dell Embedded Box PC 3000 Specifications</b>	<b>Optimized for small-footprint areas</b> For space-constrained industrial PC and IoT uses requiring rich embedded I/O and extended operating specifications, such as traffic control, retail, kiosk and vending PCs. The Intel® Atom® processors support low energy with high performance.
<b>CPU</b>	Dual- and quad-core Intel® Core™ i3, i5, i7 and Celeron®	<b>CPU</b>	Dual- and quad-core Intel® Atom® E3800 series
<b>Memory</b>	DDR4 type: either 4GB (1x 4GB), 8GB (2x 4GB or 1x 8GB) or 16GB (2x 8GB)	<b>Memory</b>	DDR3L type: either 4GB (1x 4GB) or 8GB (2x 4GB or 1x 8GB)
<b>Drives/Storage</b>	HDD and SSD m.2 (with interposer) options: 2x SATA HDD or 2x SSD or 1x SSD + 1x HDD. SSD is 32GB, 64GB or 128GB. Client SATA HDD is 500GB or 1TB. (Drive affects service options.)	<b>Drives/Storage</b>	1x Client SATA HDD: 500GB or 1TB. Or 1x m.2 SSD (with interposer): 32GB, 64GB or 128GB. (Drive affects service options.)
<b>Input/Output</b>	Dual gigabit ethernet: 2x RJ-45 4x USB2, 4x USB3 Serial interfaces: 4x RS-232/422/485 (set by BIOS) GPIO: 16-bit Wireless: Wi-Fi IEEE 802.11n +Bluetooth LE; Mobile Broadband/WWAN (3G or LTE) Options: ZigBee module, CAN bus card, Bluetooth option via WLAN, Parallel via PCIe card. (Limited to two out of three: WWAN, WLAN or CAN bus)	<b>Input/Output</b>	Dual gigabit ethernet: 2x RJ-45 4x USB2, 1x USB3 Serial interfaces: 3x RS-232/422/485 (set by BIOS) GPIO: 12-bit Wireless: Wi-Fi IEEE 802.11n +Bluetooth LE; Mobile Broadband/WWAN (3G or LTE) Options: ZigBee module, CAN bus card, Bluetooth option via WLAN. (Limited to two out of three: WWAN, WLAN or CAN bus)
<b>Video</b>	Three simultaneous displays: 2x DP++ 1.1, HDMI 1.4, VGA. Resolution: Max DP++ 4096x2304; max HDMI 4096x2160@24Hz; max VGA 1920x1200@60Hz. (Later in 2016: Optional discrete graphics card)	<b>Video</b>	Two simultaneous displays: 1x DP++ 1.1, VGA. Resolution: Max DP++ 4096x2304; max VGA 2560x1080@60Hz
<b>Expansion</b>	Two PCI/PCIe slots: riser card options: 2x PCI or 1x PCI + 1x PCIe x 16	<b>Expansion</b>	None

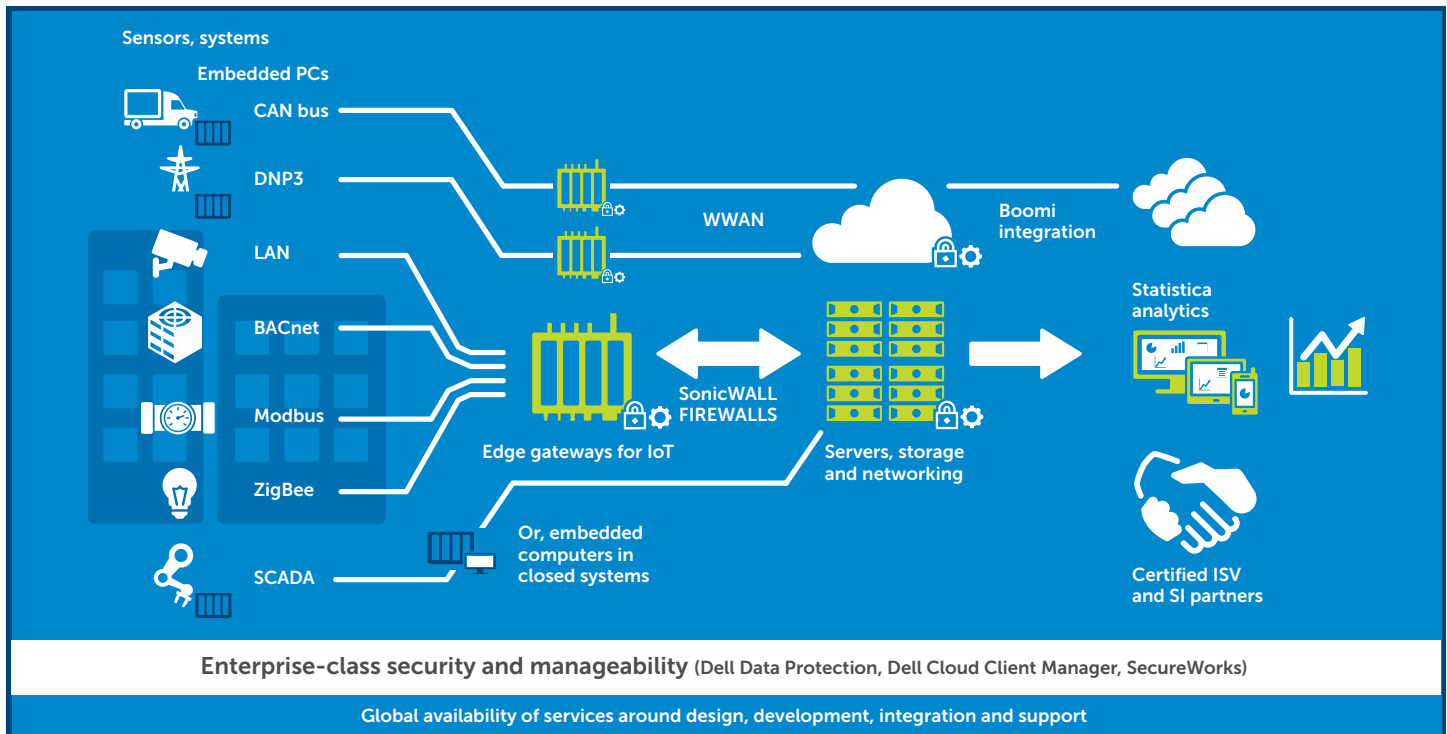
# Dell brings its heritage as a Tier 1 vendor to embedded systems.

In addition to reducing your speed to market from months to weeks, Dell brings the benefits of enterprise-class lifecycle, stability, service and support to industrial PCs. Get closer to the benefits of a single-source supplier relationship.

## Create the systems and endpoints that best fit your use case.

Dell can provide a complete ecosystem for your embedded PC. From our top-rated IT security portfolio, to cloud asset management and provisioning, to the advanced analytics and business intelligence that makes a smart system smart, we can deliver some, most or all of what you need.

Benefit	Dell's approach
<b>Flexible supply chain</b>	<ul style="list-style-type: none"> <li>• High availability, in quantities of one, small batches or large volumes</li> <li>• Delivery in weeks for faster commissioning</li> <li>• Proven, global scale</li> <li>• Long-lived, stable platforms</li> </ul>
<b>Reliable quality</b>	<ul style="list-style-type: none"> <li>• Dell commercial standard</li> <li>• Proven quality control</li> <li>• Suppliers held to Dell standards</li> </ul>
<b>Manageability and security</b>	<ul style="list-style-type: none"> <li>• Endpoint and top-listed IT security portfolio</li> <li>• Dell cloud manageability software option</li> <li>• Custom software image installations</li> </ul>
<b>Service and support</b>	<ul style="list-style-type: none"> <li>• One-year, basic hardware warranty or Dell ProSupport services with option up to five years for solid-state drives; one-year basic hardware warranty on HDD.</li> <li>• Deployment services: Configuration and logistics</li> <li>• Skilled, global service and support</li> </ul>
<b>Financial solutions</b>	<ul style="list-style-type: none"> <li>• Flexible payment options available through Dell Financial Services*</li> </ul>



## Take an enterprise approach ...



... and evolve your business model.



Mobility



Cloud/Data center



Analytics



Security



Internet of Things

## Build on the heritage of Dell OEM Solutions.

Dell's dedicated OEM business can provide true differentiation for you and your customers. Emerging trends, client, server, storage, the IoT and software will increase the value of your full product portfolio. We seamlessly design, build, deliver and support full OEM solutions around the world.

## Depend on our award-winning global support and financing.

**35,000** team members – direct and partner | **160+** countries | **55+** languages

**End-to-end hardware support:** With the Dell Embedded Box PC with a solid-state drive, you get an end-to-end service solution, including Dell Deployment Services, Dell basic hardware support or Dell ProSupport, providing hardware support throughout the product lifecycle. Choose from contract options up to five years.

**Payment solutions:** Did you know that rotation leasing can help lower TCO by facilitating planned refresh cycles that reduce internal maintenance and support costs? To learn more, ask your Dell representative to schedule a needs assessment with Dell Financial Services.\*

For More Details on Our Embedded Solutions, visit [Dell.com/embedded](http://Dell.com/embedded)



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Dell Internet of Things

\* Payment solutions provided and serviced by Dell Financial Services L.L.C. or its affiliate or designee ("DFS") for qualified customers. Offers may not be available or may vary in certain countries. Where available, offers may be changed without notice and are subject to product availability, credit approval, execution of documentation provided by and acceptable to DFS, and may be subject to minimum transaction size. Offers not available for personal, family or household use.

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