

SmartZone Cloud™		Sunbird	Nlyte	StruxureWare
ARCHITECTURE	<p>Cloud-native software¹</p> <ul style="list-style-type: none"> Architecture future-proofs an enterprise in its pursuit of a cloud-first strategy that delivers greater cost predictability and control, faster deployment, instantaneous software updates/patches, on-demand scale, enterprise-grade security, and geographical redundancy/DR Microservices and container based which allows for rapid development and innovation Leverages cloud technologies that are validated and tuned for consistent delivery. For example, core application data can live in a traditional SQL based database service, while telemetry data can live in a scale-out non-SQL database, allowing for longer data retention periods and deeper analysis and correlations Scales horizontally and vertically where needed. For example, data ingestion and analytics can be tuned independent of other parts of the application Deployed in a “Cloud-Native Runtime” like Kubernetes Deploy capacity when you need it, start small and scale Simple maintenance, update, and upgrade cycles 	<p>Traditional enterprise software</p> <ul style="list-style-type: none"> Claim of ‘cloud software’ is not a cloud-native architecture here, but rather a ‘cloud hosted’ version of the traditional enterprise software; the benefits of cloud here are very limited Larger application bundles Tight coupling between operating system and other system components Complicated maintenance structure 		
DEPLOYMENT	<p>Scale-out architecture</p> <ul style="list-style-type: none"> Services and containers are automatically deployed to manage workloads and provide scale in a seamless automated manner with a tight connection to the underlying infrastructure Deployment speed is greatly increased. A new instance of the system can be commissioned in minutes 	<p>Scale up architecture</p> <ul style="list-style-type: none"> Database, storage, compute must be sized and pre-committed in advance Upgrades/updates for all system components are complex and disruptive Very tight coupling with underlying infrastructure 		

¹ Please refer to Diagram A: Cloud-Native Software Architecture below

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BACKUP AND REDUNDANCY	<p>Built-in</p> <ul style="list-style-type: none"> Engineered within the cluster and multiple regional zones in case of catastrophic data center failures 	<p>Add-on</p> <ul style="list-style-type: none"> Needs to be architected as part of the solution and adds complexity, cost and overhead Frequently this responsibility is left to the customer's engineers to solve and perform 		
ROLLOUT	<p>Cloud-native to Microsoft Azure</p>	<p>Private cloud and/or bare metal server</p>		
CLOUD SECURITY	<p>Security backed by Microsoft Azure</p> <p>SmartZone Cloud leverages Microsoft Azure's vast investment in providing secure PaaS applications that form the foundation of SmartZone Cloud's application delivery system. This inherently makes the application more scalable and more secure.</p> <ul style="list-style-type: none"> Global infrastructure of 160+ data centers in 60+ regions Has more compliance certifications than any other cloud provider Invests more than USD \$1B annually on cybersecurity R&D Employs 3,500+ security experts entirely dedicated to data security and privacy Isolated cloud instance available for single customer, enhanced security 	<p>Dependent on cloud hosting provider</p> <ul style="list-style-type: none"> Varies based on where the private cloud is deployed, and who and how it is managed and administered Application and supporting modules can easily become outdated because of the time required to test new components and upgrade Isolated application instances unable to take advantage of features 		
MOBILITY	<p>Completely responsive web design</p> <ul style="list-style-type: none"> SmartZone Cloud UX/UI is designed from the ground up to function equally on mobile, tablet and desktop through a simple web browser under a responsive web design ethos 	<p>Refactored as a mobile app</p> <ul style="list-style-type: none"> An app is designed to make the traditional enterprise software available for mobile use, which almost always places limits on functionality compared to the desktop version it was originally designed for 		

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FUNCTIONALITY	<p>Single pane of glass, intuitive drilldown approach</p> <ul style="list-style-type: none"> All the DCIM functionality is consumed by the user under the same familiar pane of glass. Access to each asset is through a 'drill down' approach – drill down from a geographical map down to a data center, to a rack, to a server—all the way to a virtual machine and components 	<p>Different modules</p> <ul style="list-style-type: none"> Application is consumed through independent modules that deliver a fragmented end-user experience For example, Sunbird ships both DC tracks and PowerIQ which are very different 		
UPGRADES/UPDATES	<p>No additional cost or downtime</p> <ul style="list-style-type: none"> Included in the subscription pricing, no additional charges Instant software updates and upgrades with no downtime—as a user has come to expect from software-as-a-service products No capex and/or capex upgrade requirements—ever 	<p>Expensive and often messy</p> <ul style="list-style-type: none"> Upgrades may be included in a subscription model but are usually extra in a perpetual model Because of the tight coupling to the infrastructure, maintenance and upgrade operations can be expensive, complicated and time consuming with downtime Frequently the enhanced application requires upgrades to the supporting infrastructure, such as additional RAM and disk space 		
PROFESSIONAL SERVICES	<p>Focused on self-service model</p> <ul style="list-style-type: none"> SmartZone Cloud is designed for self-service, so as to greatly minimize professional services costs associated with traditional enterprise DCIM software Heavy focus on publishing how-to and getting started videos, comprehensive documentations, and courses that key off the simplicity and intuitiveness of SmartZone Cloud's UX and UI 	<p>Hefty professional services contracts</p> <ul style="list-style-type: none"> Professional services are often a major revenue source for traditional DCIM providers Lengthy and costly locked-in contracts that cover installation, training, and ongoing support and maintenance 		
API AND INTEGRATIONS	<p>Open API, fully documented REST API</p> <ul style="list-style-type: none"> All product functionality can be consumed via the API 	<p>Depends on the DCIM software provider</p>		

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USER ACCESS CONTROL	<p>Built-in</p> <ul style="list-style-type: none"> User Access Control is built into the foundation of the cloud-native application, thus available out-of-the-box. User access control is granular down to the asset level and is enforced at all levels of the application, UI and API 	<p>Unavailable or add-on</p> <ul style="list-style-type: none"> Multi-tenancy is either unavailable or an expensive add-on module 		
AUTO-DISCOVERY	<p>Robust, multi-protocol auto-discovery tool</p> <ul style="list-style-type: none"> Vendor agnostic discovery and monitoring Agentless, with no need to install any software on target machine Multi-protocol: covering infrastructure protocols like SNMP and IT protocols like IPMI, VMware and WMI Automated change detection and logging Monitoring built-in Scales horizontally to any size infrastructure Data-driven, add device support without major updates or patches 	<p>Less coverage, more support required</p> <ul style="list-style-type: none"> Less protocol coverage of infrastructure, mostly SNMP Limited device type support, mostly Power equipment like rack PDUs Device support requires change control windows to apply database and/or code patches Requires third-party add-ons for additional support for IT equipment 		
ASSET CATALOG	<p>Cloud-based catalog of over 20 thousand devices</p> <ul style="list-style-type: none"> Central catalog for all customers – one update enables device support for all Working with same vendors that support the major computer manufacturers, enabling accurate, timely and frequent updates Supports Panduit G5 PDUs, sensors, and door locks/status 	<p>Static or difficult to update</p> <ul style="list-style-type: none"> Database of supported items requires either an application update or database changes New device updates are often unique to a customer and not shared with the application base 		

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PROFESSIONAL SERVICES	<p>Professional services available worldwide</p> <ul style="list-style-type: none"> • Panduit has professional services and deployment partner around the world • Hardware (PDU, Networking, Cabinets, Grounding and Bonding) can be combined with software and deployed by trained, certified Panduit Partners 	<p>Available in a few locations from limited vendors</p> <ul style="list-style-type: none"> • Limited service in specific locations • Some vendors have no hardware support and projects must involve multiple vendors • Software limited to supporting vendors hardware only when hardware is available 		

DIAGRAM A: Cloud-Native Software Architecture

