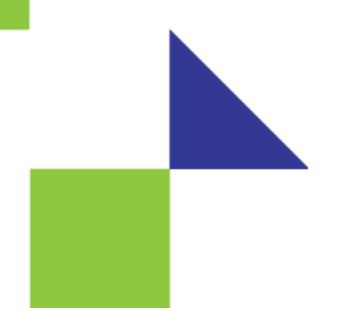


March 20-21 2018SUMMIT San Jose, CA





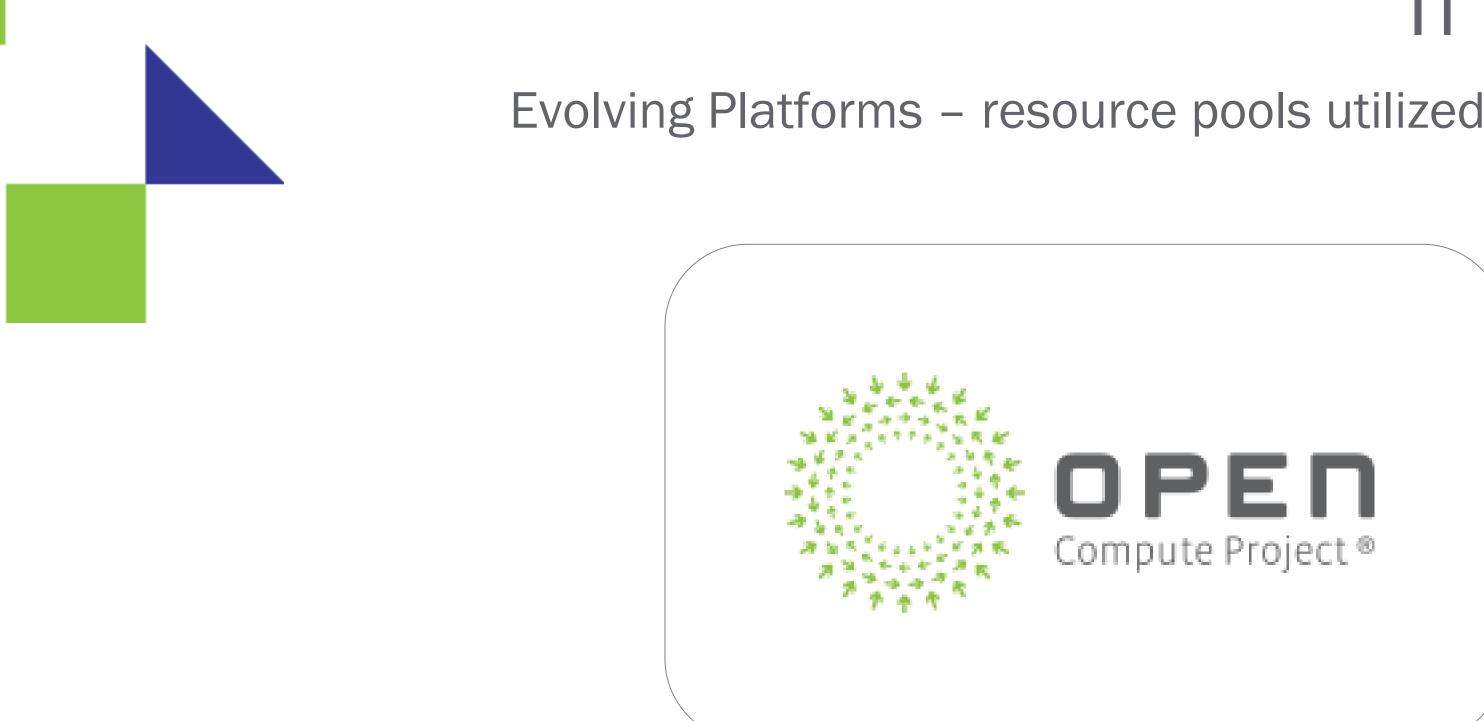
Flexible Pod Based Designs for OCP & Mixed Deployments Aaron Cotter, Director Data Center Solutions, Schneider Electric Richard Symons, C&SP Offer Manager, Schneider Electric











- Hyperscale platforms were viewed as developments purely for cloud providers
- Open Compute Project, and it's community, driving the benefits of hyperscale platforms beyond just the largest cloud providers
- Mutual interest in ensuring energy usage is efficient & sustainable

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IT Technology Platform Shift

Evolving Platforms – resource pools utilized for varying workloads and applications











- and stacked on the whitespace floor
- loaded rack to the whitespace floor

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IT Technology Platform Shift

Deployment Method Shift – new platforms driving new way of deploying IT



Legacy IT technology is traditionally installed onsite. Empty racks are deployed, IT devices racked

Hyperscale platforms typically integrated/tested offsite, by an integrator, delivered as a fully

Integrated racks simply rolled into place, connected to power/network, and are ready to go!









Hybrid Deployments





- Proof of Concept Stage
- Phased Approach for New Workloads



Challenges In The Whitespace

Open Compute Project – dealing with hybrid deployments and rapid innovation

New Innovations

V1-V2 12v DC-48v DC Olympus

- Multiple Platforms In Short Space of Time
- Innovation Continuing To Accelerate





Customers Are Asking For A Better Way To Deploy Their IT

How can we keep up with ever changing technology?

How do we transition to OCP style deployment?



Can we pre-install a flexible IT backbone?

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Is there a faster way to scale massive IT capacity?

Is there a cleaner and more cost efficient way to deploy IT?





Traditional Data Centers Were Not Designed With Flexibility In Mind

- Containment typically mounts directly to > IT racks
- Limited flexibility for varying rack sizes or > different power/cooling architectures
- Requires cutting & drilling onsite to seal > containment
- Makes adds/moves/changes difficult > and time consuming















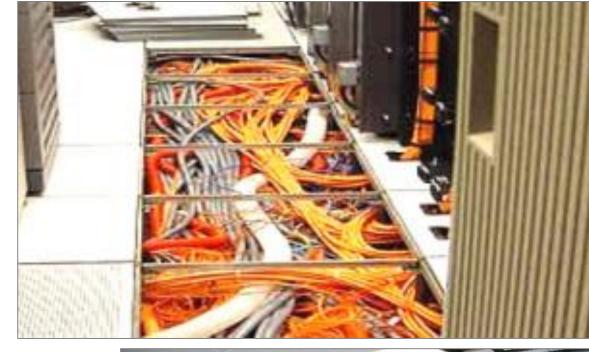
Data Center Deployment Is Harder Than It Needs To Be

Ceiling support structures are inflexible, > costly, time-consuming, and invasive

Incorrect use of raised floors creates > airflow obstructions

Construction work in IT environments > is difficult to manage















Traditional Data Centers Don't Contemplate Integrated Racks

- Increasing trend of fully configured IT racks being > integrated off site and rolled into the data center
- Traditional data center designs require racks be > in place DURING construction
- IT equipment in an unfinished data center > increases risk of damage or theft during construction





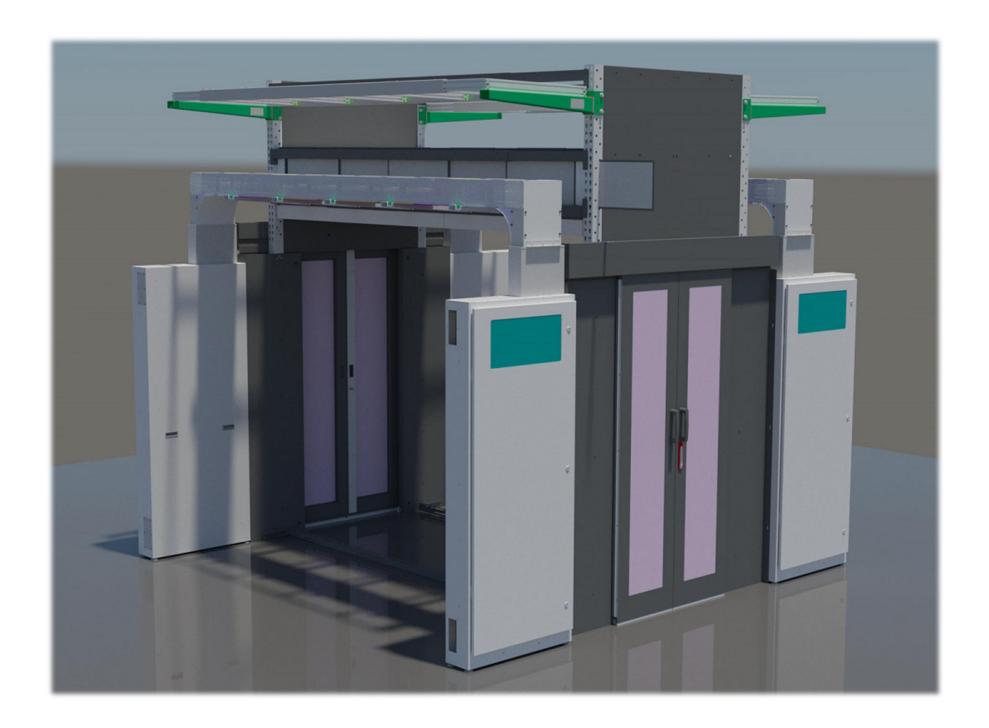




Pod Based System: A Better Way to Deploy Today's IT

- > Shorten deployment cycle by building pods fully with containment before IT racks are delivered
- > Easily mount power and data cables to the frame, ready for racks
- > Roll racks into place & "plug" into the pod
- > Predict infrastructure completion timeline more accurately









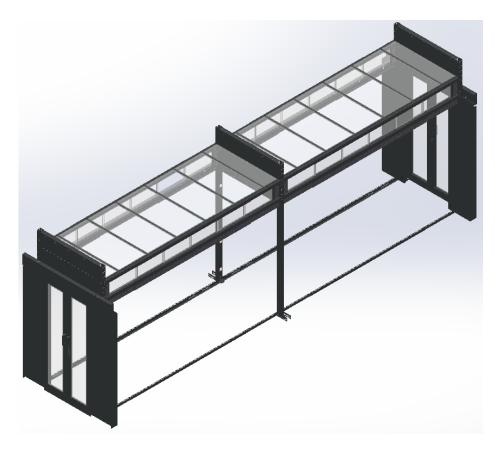


- > Free- standing frame to allow racks to roll in and out
- > Flexibility to adjust to different size and number of racks
- > Ability to support a mix of IT rack platforms
- > Expands to multi-frame deployments for larger pods
- > Pod frame provides air containment (hot or cold)
- > Support perimeter, row-based, or outside IT room cooling



Pod Based System: Flexible Free-Standing Frame











Pod Based System: Flexible Power Distribution

- > Support branch power distribution on the pod frame
- > Support for busway systems on the pod frame
- > Incorporate row based power distribution panels into pod design
- > Support copper cable trays and fiber runners on the pod frame



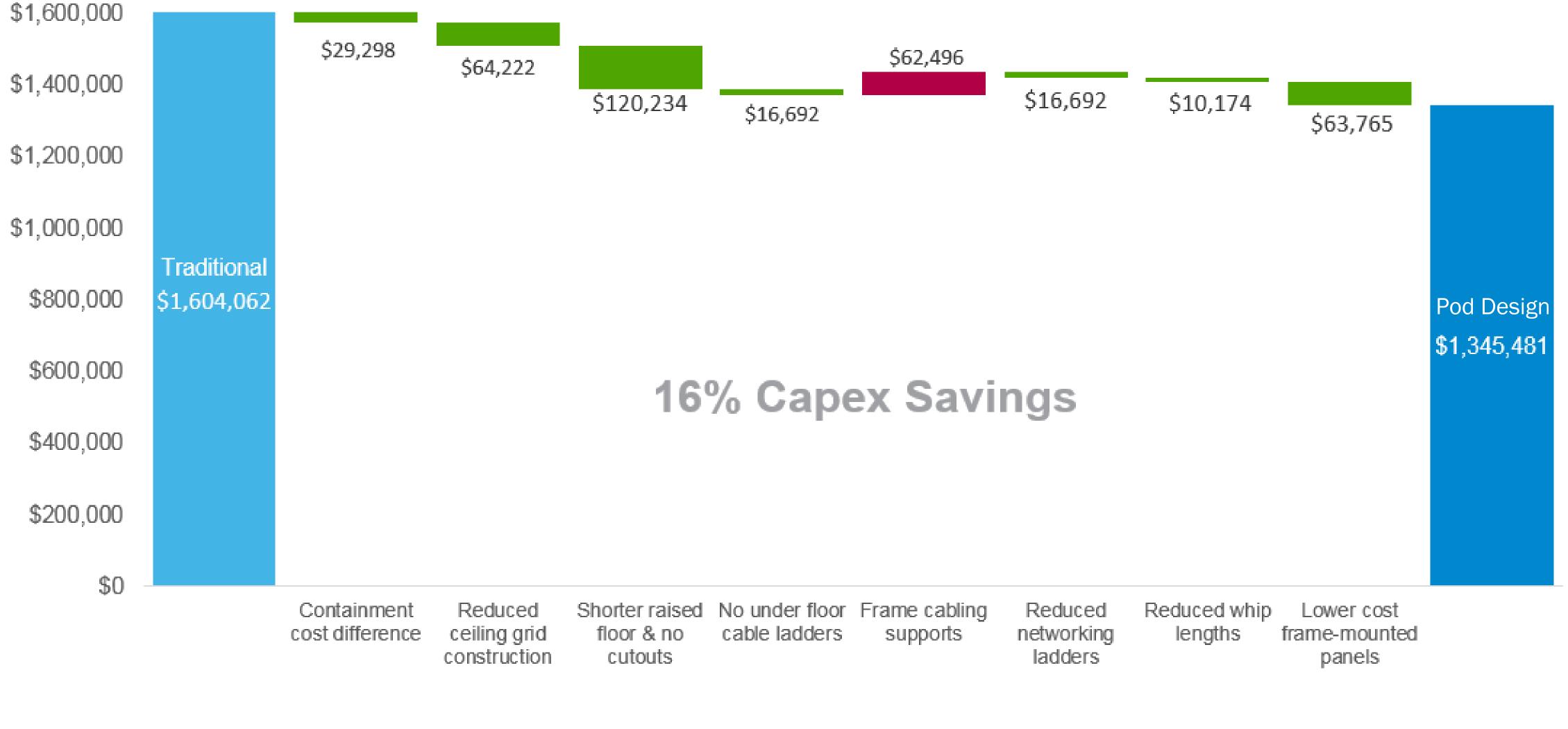














Pod Based Deployment Capex Savings







Traditional

Traditional										
Install unistrut	CHW pipe insta	all	Set CRAH units	Run conduit and main feeders to xmfrs			lers & whips to cks	Cor	ntrol/monitoring wiring	Close ou documen
	Insta	all raised floor	Cable trays, floor cutouts	Set racks, RPPs, and assen	ible containment		und :ks	Electrical startup	Fin	
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				,					,	
	2 days	Quicker ru	unning of powe	r whips on pod vs. und	lerfloor		21%		% Savings	

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Pod Based Deployment Time Savings Entitlement





84 days



- > IT is changing rapidly requiring greater flexibility, increased speed, reduced deployment time, & reduced cost
- > Addressing these needs has lead to the development of pod-based systems
- > Benefits of pod-based architecture, using free standing pod frames:
 - Roll racks in and out more easily, providing greater flexibility with equipment
 - Deploy pods quickly, independent of IT rack delivery
 - Avoid costly, time consuming, and invasive construction
 - Save 16% capex and reduce deployment time by 21%

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Pod Based Systems: Key Takeaways









Pod Based Deployment Resources

White Paper 260: Specifying Data Center IT Pod Architectures http://download.schneider-electric.com/files?p_Doc_Ref=WTOL-AHAPRN_RO-EN

http://www.apc.com/salestools/WTOL-AJDHLT/WTOL-AJDHLT_RO_EN.pdf

Reference Design 65: 5.2MW Pod-based Build

https://www.schneider-electric.com/en/download/document/RD65DSR0-pdf/

Trade-off Tool: Pod Sizing Calculator

https://www.schneider-electric.com/en/work/solutions/system/s1/data-center-and-network-systems/trade-offtools/data-center-it-pod-sizing-calculator/

Area Units Square meters Total Breaker Pole Positions 32 positions Example Pod Ped hunch Breaker Breaker Ped hunch Breaker Ped hunch Breaker Brea	
Executive summary Pod seque Productive summary Productive summary	d-based build
Total Room Area 72 sq m Breached and an anomalia is a second and another anomalia is a second and another anomalia is a second a	No. another present of the second

- White Paper 263: Data Center Pod Frames: Reduce Cost and Accelerate IT Rack Deployments





