
ATLAS T3 Reference Architectures



US ATLAS Tier-3 Meeting, June 8-9

ATLAS T3 REFERENCE

Bill of Materials:

Infrastructure

- PowerEdge 2420 24U rack
- PowerConnect 6248 L3 GBE Switch



Totals	
ATLAS price**	\$1,737
Watts @ 220VAC*	110 Watts to BTU/hr = 3.4
Rack Units (RU)	1
Weight (lbs)	285

*- Power information from www.dell.com/calc

** - Pricing information from Dell ATLAS Global Portal www.dell.com/ATLAS

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Bill of Materials:

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- PowerEdge 2420 24U rack
- PowerConnect 6248 L3 GBE Switch
- PowerEdge 2161DS KVM (Optional)
- PowerEdge UPS (Optional)
- 1U Keyboard Monitor and Touchpad Console (Optional)



Totals	
ATLAS price**	\$5,451
Watts @ 220VAC*	162 Watts to BTU/hr = 3.4
Rack Units (RU)	6
Weight (lbs)	417

*- Power information from www.dell.com/calc

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Interactive Node(s)

- Large group 8-16 people PowerEdge R710 (dual Xeon 5520) (6) 1TB drives 24 GB RAM
- Service node with virtualized services (Condor Batch, Xrootd storage master, LDAP server, Squid) PowerEdge R410 - multiple Gbe ports (channel bonded) 24 GB RAM, (4) 500 GB drives RAID10



Totals	
ATLAS price**	\$10,380
Watts @ 220VAC*	1009 Watts to BTU/hr = 3.4
Rack Units (RU)	9
Weight (lbs)	525

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Storage Element

- NFS Server with user home areas, experiment software libraries, Experiment data files, Gridftp server. PowerEdge R510 - 24 GB RAM, (12) 1 TB drives.



Totals	
ATLAS price**	\$14,803
Watts @ 220VAC*	1433 Watts to BTU/hr = 3.4
Rack Units (RU)	11
Weight (lbs)	601

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Storage Element

- NFS Server with user home areas, experiment software libraries, Experiment data files, Gridftp server. PowerEdge R510 - 24 GB RAM, (12) 1 TB drives.

Batch Worker Nodes (Option 1)

- Batch jobs. R410 24gb mem 6x4, 2x E5520, (1) 2TB hdd, NBD Support

Aggregate HEPSPec score = 930

Total Physical Cores = 80

Total raw disk space = 26 TB

*- Power information from www.dell.com/calc

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Totals	
ATLAS price**	\$29,384
Watts @ 220VAC*	3470 Watts to BTU/hr = 3.4
Rack Units (RU)	18
Weight (lbs)	951



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Storage Element

- NFS Server with user home areas, experiment software libraries, Experiment data files, Gridftp server. PowerEdge R510 - 24 GB RAM, (12) 1 TB drives.

Batch Worker Nodes (Option 2)

- Batch jobs. R710 24gb mem 6x4, 2x E5520, (6) 1TB hdd, NBD Support

Aggregate HEPSPC score = 837

Total Physical Cores = 72

Total raw disk space = 48 TB

*- Power information from www.dell.com/calc

** - Pricing information from Dell ATLAS Global Portal www.dell.com/ATLAS

Totals	
ATLAS price**	\$30,991
Watts @ 220VAC*	4745 Watts to BTU/hr = 3.4
Rack Units (RU)	23
Weight (lbs)	946



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Interactive Node(s)

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Storage Element

- NFS Server with user home areas, experiment software libraries, Experiment data files, Gridftp server. PowerEdge R510 - 24 GB RAM, (12) 1 TB drives.
- 24TB raw per MD1200 allows for storage growth to existing NFS server.

Batch Worker Nodes (Option 1)

- Batch jobs. R410 24gb mem 6x4, 2x E5520, (1) 2TB hdd, NBD Support

Aggregate HEPSPC score = 930

Total Physical Cores = 80

Total raw disk space = 74 TB

*- Power information from www.dell.com/calc

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Totals	
ATLAS price**	\$39,564
Watts @ 220VAC*	3970 Watts to BTU/hr = 3.4
Rack Units (RU)	23
Weight (lbs)	1084

ATLAS T3 REFERENCE



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Storage Element

- NFS Server with user home areas, experiment software libraries, Experiment data files, Gridftp server. PowerEdge R510 - 24 GB RAM, (12) 1 TB drives.

Totals	
ATLAS price**	\$41,571
Watts @ 220VAC*	5245 Watts to BTU/hr = 3.4
Rack Units (RU)	27
Weight (lbs)	1279

Aggregate HEPSPC score = 837

Total Physical Cores = 72

Total raw disk space = 96 TB

*- Power information from www.dell.com/calc

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Storage Element

- NFS Server with user home areas, experiment software libraries, Experiment data files, Gridftp server. PowerEdge R510 - 24 GB RAM, (12) 1 TB drives.
- 24TB raw per MD1200 allows for storage growth to existing NFS server.

Batch Worker Nodes (Option 2)

- Batch jobs. R710 24gb mem 6x4, 2x E5520, (6) 1TB hdd, NBD Support

Aggregate HEPSPec score = 837

Total Physical Cores = 72

Total raw disk space = 96 TB

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CERN/ATLAS GLOBAL PRODUCT MATRIX

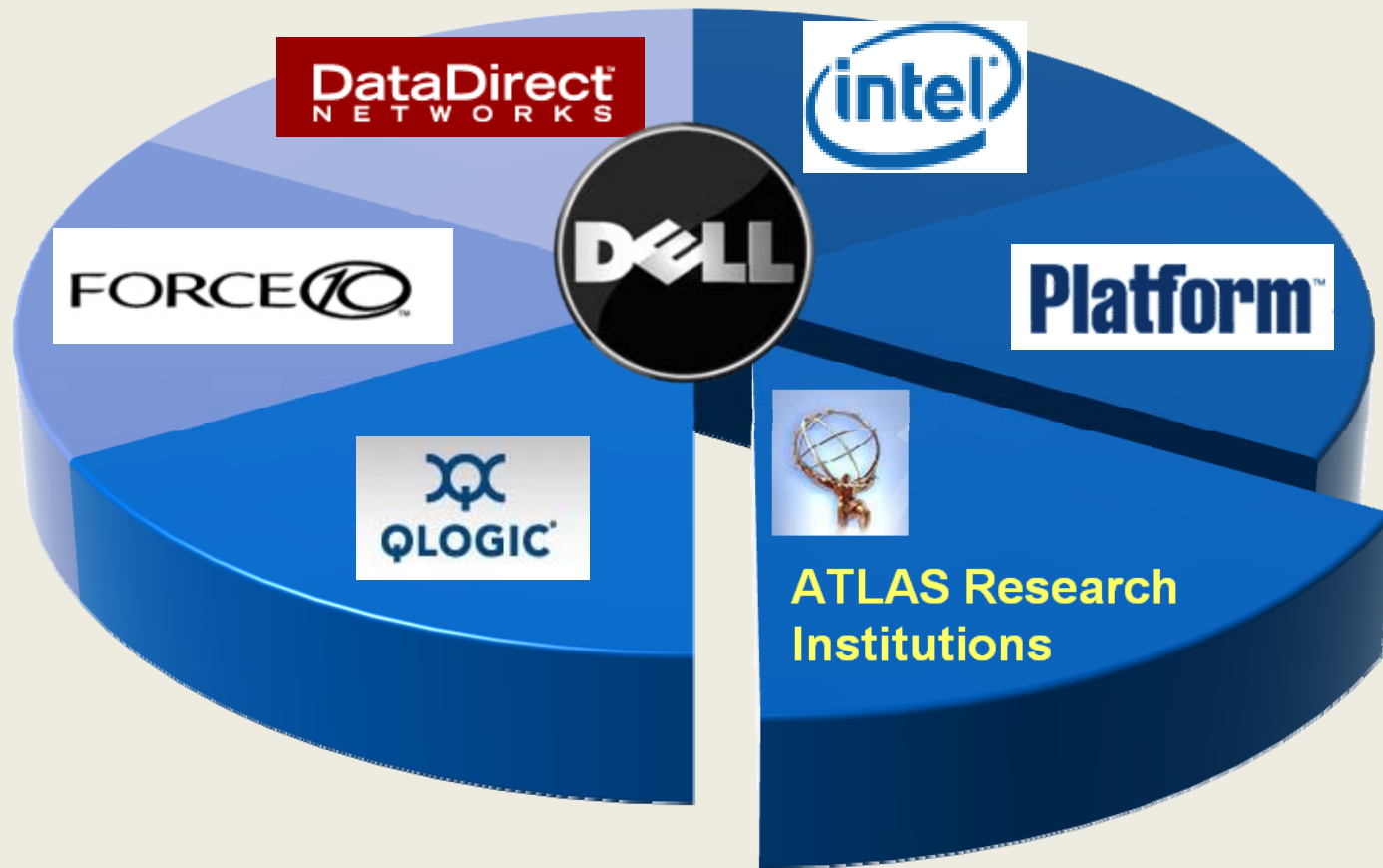
- The CERN/ATLAS Global Product Matrix delivers a common purchasing experience for the CERN/ATLAS Authorized Member Institutions (AMI). This online portal provides a single customer specific website for participating members to purchase prearranged HPC products at set discounted prices globally for ATLAS use only

The screenshot shows a web browser window displaying the CERN/ATLAS Global Product Matrix. The browser address bar shows the URL: <http://mydell.dell.com/home/default.aspx?c=US&l=en&s=biz&cs=RC1201752>. The page header includes the Dell logo, "My Premier" account information, and navigation links for "Account Options", "Contact Us", "Reports", "Custom Links", and "View All". The main content area is divided into two panes. The left pane, titled "Global Account Team", displays a table of contact information for various team members. The right pane, titled "Global Standards", shows a list of product configurations with their respective prices and options to customize or add to cart.

Name	Position	Phone
Gary Kriegel	Global Program Manager, Americas	(512) 728-7275
George Jones	Global Account Manager	(727) 252-6532
Jackie Mui	Global Catalog Manager	(512) (724) 2628
Roger Goff	Global CERN/ATLAS Architect	(1) (970) 6721252
Walker Stemple	Global Business Development Manager	(512) 5139413

Product	Price	Options
PowerEdge 11G Systems:		
PowerEdge R710	\$1,639.60	Customize Add to Cart
PowerEdge R610	\$1,666.05	Customize Add to Cart
PowerEdge R410	\$1,422.02	Customize Add to Cart
PowerEdge R510	\$2,241.92	Customize Add to Cart
PowerVault Storage		
PowerVault MD1000 w/ (15) 1TB PERC	\$2,732.12	Customize Add to Cart
PowerVault ML6030	\$48,811.96	Customize Add to Cart
PowerVault MD3000	\$3,986.42	Customize Add to Cart

DELL ATLAS PROGRAM



CERN/ATLAS

GLOBAL PRODUCT MATRIX

Dell branded products currently on the Portal and those to be added soon

PowerEdge 11G Systems:

- **R710 – on Portal**
- **R610 – on Portal**
- **R410 – on Portal**
- **R510 – on Portal**
- **C6100 – coming soon**

PowerEdge Modular Systems:

- **M1000e (Includes switching) – on Portal**
- **M610 – on Portal**
- **10GBE M8024 – on Portal**
- **1GBE M6220 – on Portal**

PowerVault DAS Storage:

- **MD1000 (SAS v1.0) – on Portal**
- **MD1200 (SAS v2.0) – on Portal**
- **MD1220 (SAS v2.0) – on Portal**

PowerConnect GBE Switching:

- **6248 – on Portal**

Infrastructure:

- **4220 (PoweEdge 42u Rack) – adding soon**

Please contact walker_stemple@dell.com with specs for an ATLAS priced quote (in USD) for items not currently displayed on the CERN/ATLAS Global Portal Matrix

QUESTIONS?