Enterprise and Data Center
X9 Hadoop Infrastructure
Hadoop Decision Questions

- Is Hadoop for my Business?
  - Yes.

- What do I run it on?
  - Supermicro.

Offering is focused to:

1. Get Started Quickly:
   Short and accurate infrastructure discussion.

2. Optimize for Scale and Workload:
   Work with Supermicro partners to optimize stage two deployments, growth and data integration platforms.
Simplify HDFS

Optimized Nodes

Optimized Nodes / Integrated Racks

Confidential

Fully validated, pre-configured SKUs optimized for Hadoop solutions

- Hot Swap or Tool-less Direct Attach 4x, 6x, 8x, and 12x 3.2TB HDDs per Node
- Platinum Level (99.99%) High Efficiency Redundant Power Supplies with PMBus

Server Management Software including In-Band and Out-of-Band Utilities

Qualified major for Hadoop software distributions

Qualified for Hadoop 2.0 / YARN
Balanced Hadoop Infrastructure
Covers 90+% of End Users

Eg., SYS-HDT0-27126332-HADP

# of Hadoop Users

Server Designs
- Custom
- High Density
- Enterprise Applications
- SSD
- GPU

SUPERMICRO®

Apache Hadoop®
High Performance Enterprise Hadoop Infrastructure

SUPERMICRO®
Supermicro Hadoop Infrastructure

Eg., SYS-HDT0-27126332-HADP

Server Designs

- Custom
- High Density
- Enterprise Applications
- 12-18 x 3.5” HDD Per U
- SSD
- GPU

# of Hadoop Users
Turn Key Certified Pilot Cluster Kits

Pilot Kit - Configuration:

Ethernet Switch: (10G Uplink Capability)
1G Ethernet Switch
SSE-G24-TG4 1U 24 port

Management Node:
Management Node
SYS-5017C-URF-MGMT2-HADP

Name Node/Job Tracker/Resource Manager:
Name Node – 64GB
SYS-HNW0-15026364-HADP

Secondary Name Node:
Name Node – 64GB
SYS-HNW0-15026364-HADP

Data Node
Data Node – 6 x 1TB 32GB
SYS-HDT0-27126332-HADP 2UTwin

2 Data Nodes:
2 Data Nodes:
2 Data Nodes:
2 Data Nodes:

L6-30A Plug PDU

11 Node Pilot
- 48 TB
- 3.5” SATA
- 120 Cores
- 48 Spindles
- 384 GB Memory
- Occupy 14U

Hadoop Kit # SRS-14UL63-HADP-TL
Building Block Nodes for Hadoop

- **815 Name Node / Job Tracker / Resource Manager / Journal Manager**
  - Dual Six Core Xeon
  - 4 x 3.5” 15k HDD
  - Hot Swap HDD, PSUs
  - On Board IPMI Remote Management
  - 93% Efficiency PMBus PSUs

  SYS-HNW0-15026364-HADP
  SYS-HNWX-19026364-HADP (10G SFP+)

- **827 2UTwin Data Nodes**
  - Dual Six Core Xeon
  - 6 x 3.5” HDD per node
  - 2 Nodes in 2U = 6 HDD per U
  - On Board IPMI Remote Management
  - Hot Swap Nodes, HDD, PSUs
  - 94% Efficiency PMBus PSUs

  SYS-HDT0-27126332-HADP
  SYS-HDXX-27126332-HADP (10G SFP+)
Building Block Nodes for Hadoop

**FT4 FatTwin Data Nodes**
- Dual Six Core Xeon
- 8 x 3.5” HDD per node
- 4 Nodes in 4U = 8 HDD per U
- On Board IPMI Remote Management
- Hot Swap Nodes, HDD, PSUs
- 95% Efficiency PMBus PSUs

SYS-HDF0-24126332-HADP
SYS-HDFX-24126332-HADP (10G SFP+)

**826 2U Data Nodes**
- Dual Six Core Xeon
- 12 x 3.5” HDD
- On Board IPMI Remote Management
- Hot Swap Nodes, HDD, PSUs
- 94% Efficiency PMBus PSUs

SYS-HDD0-26126332-HADP
SYS-HDDX-26126332-HADP (10G SFP+)
High Density Hadoop Solutions

Cost Effective, High Density DataNode

- 1U, Front I/O
- Dual Intel Xeon CPU or Single Intel Xeon CPU
- Up to 16 DIMM, 512GB memory
- 12 x 3.5” HDD per node
- 2 additional PCI-E Gen 3 slots
- 10GbE onboard option
- High efficiency 650W power supply

SYS-6017R-73(T)HDP+
SSG-5017R-iHDP
High Density Hadoop Solutions

Fat Twin = Best Performance / Watt / $ / ft²

- 4 nodes in 4U, Front I/O
- Dual Intel Xeon CPU (F617H6-FT(PT)L+) or Single Intel Xeon CPU (F517H6-FT)
- Up to 16 DIMM, 512GB memory
- 12 x 3.5” HDD per node
- 2 additional PCI-E Gen 3 slots
- 10GbE onboard option
- High efficient 1620W redundant power supply
- Hot-swappable cooling fans

SYS-F617H6-FT(PT)L+
SYS-F517H6-FT
Partners Certified Technology

Supermicro
Hadoop Pilot Kit

A. 24-Port 10G SFP+ Switch (SSE-X24S)

B. 48-Port 1G Switch + 10G SFP+ Uplink (SSE-G48-TG4 w/ AOM-SSE-X2S)

C. Name Node/Job Tracker (SYS-HNW0-15026364-HADP)

D. Secondary Name Node/Job Tracker (SYS-HNW0-15026364-HADP)

E. Data Nodes/2U Twin (SYS-HDT0-27126332-HADP)

10G Uplink / Fabric

1G Fabric 1

[Diagram of rack configurations]
Pre-configured Optimized Hadoop Nodes

Name Node / Job Tracker / Resource Manager / Journal Manager:

- **815 Name Node** – 4 x 15K 64GB
  SYS-HNW0-15026364-HADP 1U

Data Nodes:

1TB SATA Drives

- **825 Data Node** – 8 x 1TB 32GB
  SYS-HDD0-25126332-HADP 2U

- **826 Data Node** – 12 x 1TB 32GB
  SYS-HDD0-26126332-HADP 2U

- **FT4 Node** – 8 x 1TB 32GB
  SYS-HDF0-24126332-HADP FatTwin

2TB SATA Drives

- **827 Data Node** – 6 x 1TB 32GB
  SYS-HDT0-27126332-HADP 2U Twin

- **827 Data Node** – 6 x 2TB 32GB
  SYS-HDT0-27226332-HADP 2U Twin

- **826 Data Node** – 12 x 2TB 32GB
  SYS-HDD0-26226332-HADP 2U

- **FT4 Node** – 8 x 2TB 32GB
  SYS-HDF0-24226332-HADP FatTwin

2TB SATA Drives
**Hadoop Series Naming Convention**

SYS-HDW0-26126332-HADP

- **H** = Hadoop
- **D** = Data Node
- **N** = Name Node
- **W** = X9DWR-F
- **T** = X9DRT-HF
- **D** = X9DRD-7LN4F
- **F** = X9DRFR

**Additional Codes:**
- 0 = Intel
- 1 = AMD
- X = Intel 10G
- 32 = GB Memory
- 64 = GB Memory
- 263 = Xeon E5-2630v2
- 0 = OS HDD x 4
- 1 = 1TB HDD
- 2 = 2TB HDD
- 15 = 815 - 1U - 4 HDD
- 19 = 819 - 1U - 4 HDD
- 24 = 424 - 4UFTwin – 4x8HDD
- 25 = 825 - 2U - 8 HDD
- 26 = 826 - 2U - 12 HDD
- 27 = 827 - 2UTwin - 2x6 HDD
<table>
<thead>
<tr>
<th>Model/Part #</th>
<th>Description / Functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYS-HNW0-15026364-HADP</td>
<td>1U Hadoop 815 Name Node 6C E5-2630v2 2.6G 15M 7.2G 80W 64GB MEM</td>
</tr>
<tr>
<td>SYS-HDT0-27126332-HADP</td>
<td>2U Hadoop 827 <strong>6</strong> 1TB 6C E5-2630v2 2.6G 15M 7.2GT 80W 32GB MEM</td>
</tr>
<tr>
<td>SYS-HDT0-27226332-HADP</td>
<td>2U Hadoop 827 <strong>6</strong> 2TB 6C E5-2630v2 2.6G 15M 7.2GT 80W 32GB MEM</td>
</tr>
<tr>
<td>SYS-HDD0-25126332-HADP</td>
<td>2U Hadoop 825 <strong>8</strong> 1TB 6C E5-2630v2 2.6G 15M 7.2GT 80W 32GB MEM</td>
</tr>
<tr>
<td>SYS-HDD0-25226332-HADP</td>
<td>2U Hadoop 825 <strong>8</strong> 2TB 6C E5-2630v2 2.6G 15M 7.2GT 80W 32GB MEM</td>
</tr>
<tr>
<td>SYS-HDF0-24126332-HADP</td>
<td>4U Hadoop FT4 <strong>8</strong> 1TB 6C E5-2630v2 2.6G 15M 7.2GT 80W 32GB MEM</td>
</tr>
<tr>
<td>SYS-HDF0-24226332-HADP</td>
<td>4U Hadoop FT4 <strong>8</strong> 2TB 6C E5-2630v2 2.6G 15M 7.2GT 80W 32GB MEM</td>
</tr>
<tr>
<td>SYS-HDD0-26126332-HADP</td>
<td>2U Hadoop 826 <strong>12</strong> 1TB 6C E5-2630v2 2.6G 15M 7.2GT 80W 32GB MEM</td>
</tr>
<tr>
<td>SYS-HDD0-26226332-HADP</td>
<td>2U Hadoop 826 <strong>12</strong> 2TB 6C E5-2630v2 2.6G 15M 7.2GT 80W 32GB MEM</td>
</tr>
</tbody>
</table>
## 10G SFP+ Hadoop Series Naming Convention

<table>
<thead>
<tr>
<th>Model/Part #</th>
<th>Description / Functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYS-HNWX-15026364-HADP</td>
<td>1U Hadoop 815 Name Node 6C E5-2630v2 2.6G 15M 7.2G 80W 64GB MEM</td>
</tr>
<tr>
<td>SYS-HDTX-27126332-HADP</td>
<td>2U Hadoop 827 6 1TB 6C E5-2630v2 2.6G 15M 7.2GT 80W 32GB MEM</td>
</tr>
<tr>
<td>SYS-HDFX-24126332-HADP</td>
<td>4U Hadoop FT4 8 1TB 6C E5-2630v2 2.6G 15M 7.2GT 80W 32GB MEM</td>
</tr>
<tr>
<td>SYS-HDDX-26126332-HADP</td>
<td>2U Hadoop 826 12 1TB 6C E5-2630v2 2.6G 15M 7.2GT 80W 32GB MEM</td>
</tr>
</tbody>
</table>
Turn Key Hadoop Cluster Racks

Optimized Nodes + Integration + Delivered = ROB
Return on Byte$
10G Turn Key HDFS Hadoop Cluster Racks

Supermicro Bare Metal 42U X9 Hadoop Infrastructure:

SUPER RACK: **SRS-42XL63-HADP-FL** (42U FatTwin DataNodes)

Servers:

1 x Management Node (1 x SYS-50117C-URF-MGMT2-HADP)  
3 x Name/Job Tracker Nodes (3 x SYS-HNWX-19026364-HADP)  
36 x Data Nodes (9 x SYS-HDFX-24126364-HADP)

Networking:

Data Network  
1 x 48 Port 10G Switch SFP+ (1 x SSE-X3348SR)

IPMI Management Network  
1 x 48 Port 1G Switch (1 x SSE-G48-TG4 w/ 1 x AOM-SSE-X2S)

Raw HDFS Capacity:

1TB Drives - 288 TB  
2TB Drives - 576 TB

PDUs  
Cabled / Labeled / Crated
Supermicro Bare Metal 42U X9 Hadoop Infrastructure:

SUPER RACK: **SRS-42XL63-HADP-TL** (42U 2UTwin DataNodes)

**Servers:**

1 x Management Node (1 x SYS-5017C-URF-MGMT2-HADP)
3 x Name/Job Tracker Nodes (3 x SYS-HNWX-19026364-HADP)
36 x Data Nodes (18 x SYS-HDTX-27126332-HADP)

**Networking:**

Data Network
1 x 48 Port 10G Switch SFP+ (1 x SSE-X3348SR)

IPMI Management Network
1 x 48 Port 1G Switch (1 x SSE-G48-TG4 w/ 1 x AOM-SSE-X2S )

**Raw HDFS Capacity:**

1TB Drives - 216 TB
2TB Drives - 432 TB

**PDUs**

Cabled / Labeled / Crated
Supermicro, Apache and Cloudera Certified Hadoop Solutions

Apache Hadoop is an opensource software project maintained by the Apache Software Foundation. [http://apache.org/](http://apache.org/)


Cloudera offers a powerful and integrated Big Data platform comprising software, support, training, professional services, and indemnity. This platform, which has open source Apache Hadoop software at its core, allows customers to store, process, and analyze far more data, of more types and formats, and to do so more affordably than legacy technology -- allowing them to “ask bigger questions”.

Learn and Download Cloudera’s Distribution including Apache Hadoop:

Download Software:


Supermicro Certified Hadoop Infrastructure Solutions:
Pre-configured and Cloudera Certified Hadoop Nodes: [www.supermicro.com/hadoop](http://www.supermicro.com/hadoop)


Supermicro, Apache and Hortonworks Certified Hadoop Solutions

Apache Hadoop is an open source software project maintained by the Apache Software Foundation. [http://apache.org/]

Learn and Download Apache Hadoop: [http://hadoop.apache.org/]

Founded in 2011 by 24 engineers from the original Yahoo! Hadoop development and operations team, Hortonworks has amassed more Hadoop experience under one roof than any other organization. Our team members are active participants and leaders in Hadoop development; designing, building and testing the core of the Hadoop platform. We have years of experience in Hadoop operations and are best suited to support your mission-critical Hadoop project.

Learn and Download Hortonworks’s Distribution including Apache Hadoop: Main Web Page: [http://hortonworks.com/]

Download Software:

Hortonworks Data Platform Installation and Configuration Documentation: [http://docs.hortonworks.com]

Supermicro Certified Hadoop Infrastructure Solutions:
Pre-configured and Hortonworks Certified Hadoop Nodes: [www.supermicro.com/hadoop]


Supermicro Hortonworks Partnership and Solution: [http://hortonworks.com/partner/supermicro]
http://www.supermicro.com
http://www.supermicro.com/hadoop