

dashDB Local Overview

Overview:

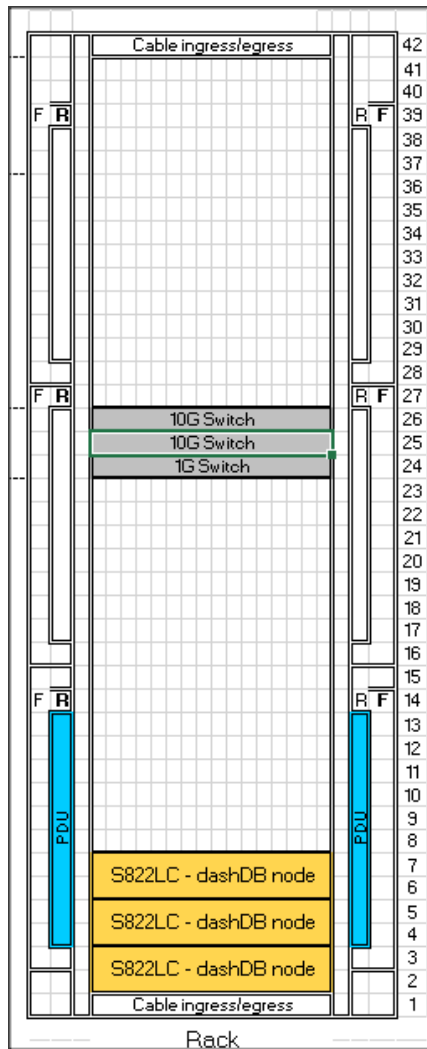
You can deploy dashDB Local in a wide range of environments, from a basic laptop for development purposes, all the way to a large production cluster. You can choose either a single-node (SMP) setup or a multinode (MPP) setup. An MPP setup has a minimum of three nodes and a maximum of either 24 / 60 nodes. The maximum depends on the number of data partitions that were allocated when you deployed.

dashDB Local Mini Config:

In this file, we are showing an example of a multimode (MPP) setup with the minimal of three nodes using IBM OpenPower S822LC server(s) (ie 1 head node and 2 data nodes)

Design consideration for dashDB Local (MPP):

- Cluster and Node Memory Consideration (256GB memory minimum is preferred)
https://www.ibm.com/support/knowledgecenter/en/SS6NHC/com.ibm.swg.im.dashdb.doc/admin/local_prereqs.html
- If you deployed dashDB Local 1.7 or later and had at least 960 GB of cluster total RAM when you deployed, 60 data partitions were allocated. The maximum number of nodes that you can scale out to is therefore 60 (one head node and 59 data nodes). Recommend for Scale-out: 3, 4, 5, 6, 10, 12, 15, 20, 30, or 60 nodes.
- If you deployed dashDB Local 1.7 or later and had less than 960 GB of cluster total RAM when you deployed, 24 data partitions were allocated. The maximum number of nodes that you can scale out to is therefore 24 (one head node and 23 data nodes). Even if you increase the cluster total RAM to at least 960 GB after deployment, you cannot scale out to more than 24 nodes. Recommend for Scale-out: 3, 4, 6, 8, 12, or 24 nodes.
- High speed network for inter-nodes communications: 10G minimal (40G preferred)
- Storage: 300GB local storage minimum per node .. (Solid state / Flash drives are preferred)



Software Stack:

Ubuntu 16.04 .01 or later
RHEL 7.3 (TDB)

Docker Platform
dashDB local Container

Cluster File System :
Spectrum Scale GPFS FPO

dashDB Local Node

Qty = 3

IBM S822LC Bigdata Server Config: (IBM 8001-22C) (2U)

- 8 Cores (3.3Ghz), 256GB memory
- 1 x SAS Raid Controller
- 2 x SAS HDDs 2TB (OS boot/ mirror)
- 7 x 1.9TB SAS SSD drives– 13TB usable
- 1 x 2-Port 10G/1G NIC adapter

Total cluster:
0.768TB Memory

Network :

1 /(2) x IBM 10G G8264 / Customer provide
1 x IBM 1G G8052 / Customer provide

Space Requirements: 6U

Rack Requirements:

IBM SlimRack 7965-94Y / Customer provide equivalent.

High Level Network Architecture Diagram: dashDB with Local Storage

