Altera Methodics/Perforce Appliance Proposal

I. Hardware

   i. Cluster components

- Lopoco LP-2180p Perforce appliances
- Specifically designed to run Perforce in a cluster configuration
- 0.5 TB SSD local storage
- Dual gigabit ethernet interfaces: one for client connections, one for data replication traffic
- 1U rackmount case

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ii. Methodics/Perforce Cluster

- 4 x 2180p appliances configured in a Perforce cluster, with 1 active writer, 2 active readers, 1 warm standby/replication

- Single appliance failure results in very little overall loss of performance

- Dual appliance failure results in degraded performance but service still available to engineers

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ii. Methodics/Perforce Cluster – continued

- 1 cluster each in Milpitas and Toronto locations

iii. Local storage (SSDs) for Perforce metadata

iv. Data/File storage will be handled by external NFS storage (NAS) to accomodate existing backup and growth methods

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II. Software

i. The proposed architecture is based on HA clustering, guaranteeing very high availability, performance and maximum scalability

ii. Performance is achieved by:

- Leveraging Lopoco appliances sporting top-notch P4 performance across the board (LP-2180p appliance)

- Intelligently partitioning access patterns across the board (p4broker)

- Ability to blacklist abusive behavior (p4broker)

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II. Software

iii. Scalability is achieved by:

- Request routing and filtering based on local policy via p4broker: read commands are redirected to read-only slave nodes reducing load and lock contention on the master
- Storing versioned data files on a centralize NAS appliance allowing ample future growth and cost effective backup strategies

iv. Maintenance

- Lopoco reserves the right to perform maintenance tasks when required
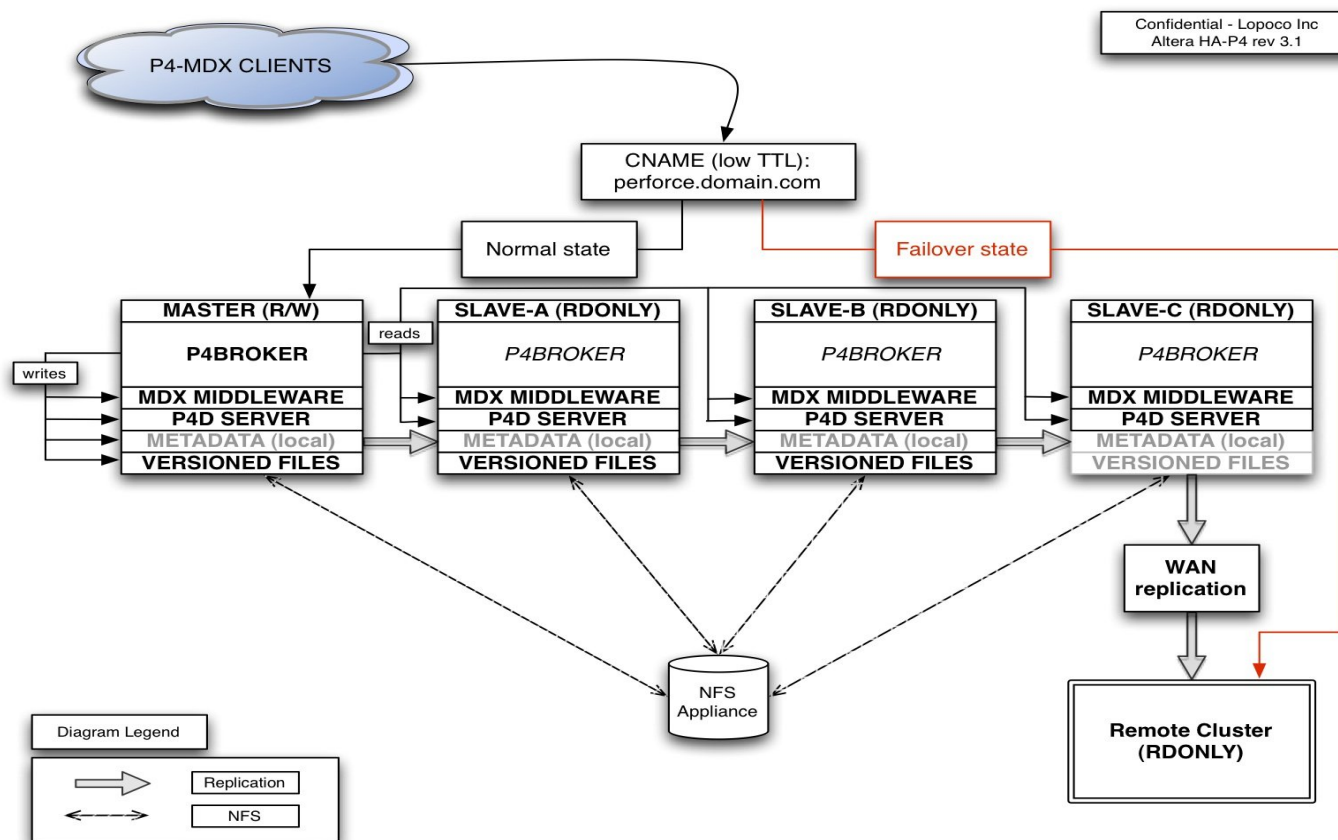- Those tasks will be perfomed without service interruption unless specified and agreed upon with customer.

v. Root password

- Shall remain in Lopoco's control to insure service and support continuity.
- A set of administative commands shall be provided to the customer for self administration

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vi. Architecture

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III. Warrantee and Support

    i. 12 month warrantee against hardware failures

    ii. 24 – 48 hour component or complete appliance replacement

    iii. Optional 3 year support contract available

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IV.Constraints

   i. Performance requirements

      Performance of the appliance and related software will often be restrained by the responsiveness of services provided outside the cluster. It is the responsibility of Altera to ensure these services meet the performance requirements necessary for the cluster to meet performance and reliability expectations.

      a) Reliance on services outside the cluster:

- DNS
- LDAP
- NFS

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V. Cost options

    i. SSD capacity & redundancy

- 750GB SSD capacity per cluster node

    ii. Software options

- Push button backups
- Automatic HA failover of Perforce writer node
- Remote monitoring and alert notifications

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