

# Challenges

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- Wide Geographic Distribution
  - 32 offices worldwide
- Diverse Traffic over Homogenised IP Network
  - Engineering and office traffic carried over the same IP network
  - Data Center replication
  - Voice and Video
- Constrained IT Team Resources
  - Limited time for optimisation layer management



# Initial Project Goals and Requirements

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- Business networks must scale
  - Latency mitigation
  - Quality of service
- Consolidate engineering resources via High Performance Computing (HPC) centralisation
  - Interactive flow improvements over latencies ~50-100ms
  - Dedup and replication of data to support engineering flows
- Stringent Business Continuity requirements
  - Replication of Tier 1 data
- Application Agnostic approach required
- Low Management footprint

# Network Environment

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- Single provider “local to global to local” MPLS network
- Existing Global VPN to be retained
  - Security Policy enforcement and encryption centrally managed
- Mix of bandwidth requirements
  - Satellite offices ~10Mbps
  - Design Centers, Hub sites and Datacenters >100Mbps
  - Metropolitan links ->1Gbps
- Large mix of latency
  - Interoffice latency anywhere between 10 and 380ms
- Application Mix
  - Realtime Applications (Voice, Video) - Large amount of UDP
  - Data Replication: Storage, VCS Repositories
  - Office Applications
  - Engineering applications



# Multi-Phase Implementation Approach

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- Phase 1 - Initial Deployment to key engineering sites and datacentres
  - Latency mitigation and single flow improvement to reduce development time and product delivery time
  - Strategic scalable bandwidth growth that capitalises on current and future investment
  - HPC Consolidation
- Phase 2
  - Business engagement for de-duplication
- Phase 3
  - Deployment to wider business
  - Departmental reporting and analytics using real-time dashboards

# Results and Benefits

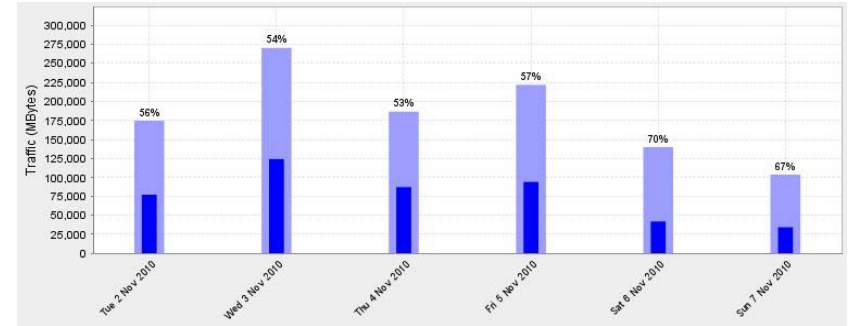
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- Strategic Base for the future
  - Ability to grow regional bandwidth and deliver performance gains on single flow applications
- Product delivery
  - Engineering community see immediate benefit
  - AsiaPac product delivery times reduced by ~9x
  - Engineer data replication speed increased by 100%
- Business continuity
  - VCS silos replicated globally without impact to existing workflows or office traffic
- Project delivered by a single member of staff

# Results and Benefits

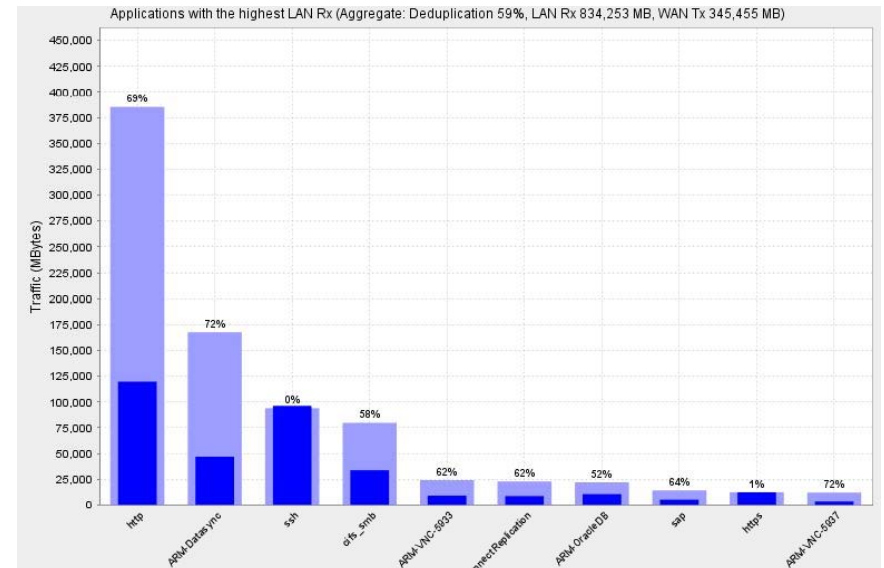
- Minimum of 50% Average daily duplication

- Tangible ROI based on dedup alone
- Additional data replication projects green lit
- VoIP dedup increasing call capacity



- Interactive application dedup

- VNC, EOD enabling resource consolidation
- Performance better than expected



# Next Steps – Partner and Customer optimisation

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- Future business investment secure based on success of Phase1
  - Wider rollout to non engineering business divisions
  - Departmental interactive reporting (SPD)
- Workflow changes
  - Engage with the business and alter workflows to obtain the maximum benefit from optimisation
- Virtual Appliances
  - R&D Phase to test Customer Deployment
    - Reduce product delivery time to customers
    - Cloud based infrastructure