

Cost Recovery & Billing for Today's Networks

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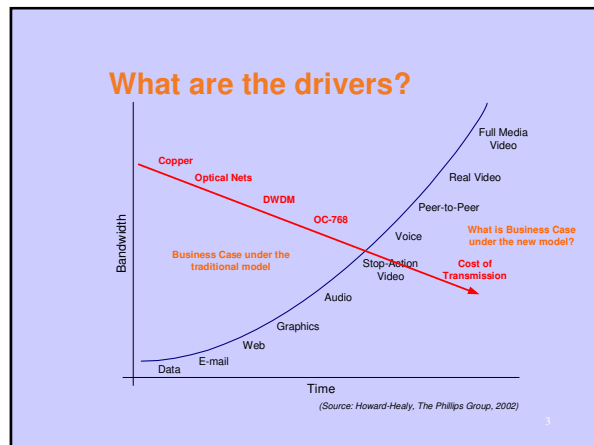
QuestNet 2004, Cairns

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What is the Problem?

- Networks are unaccountable expenses
 - Budget shrinking and costs increasing
 - About 10% of students account for about 90% of costs
- Business Case Considerations
- The Phoneware solution
- A quick look at an Installation
- Critical Factors in implementing a solution

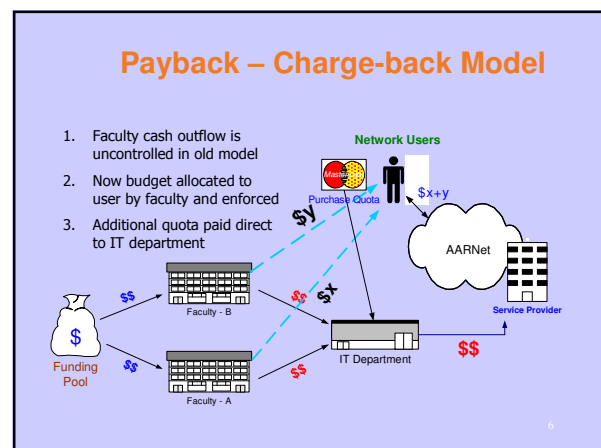
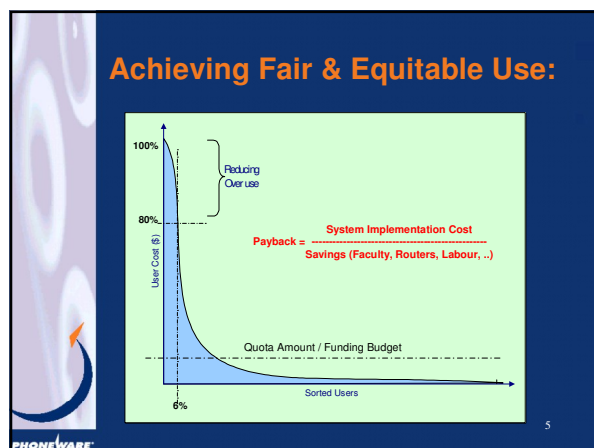
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Payback – Commercial Model

- Payback = Investment / Cash Inflow
- There's more to consider than just recovery of the Internet bill:
 - Pipe size growth rate (total annual expenditures)
 - Depreciation of network assets
 - Direct infrastructure growth
 - LAN growth (to support Internet pipe)
 - Fully loaded personnel support costs
 - Operating costs & on-costs
 - Minimize need to increase capacity
 - Economics of home-grown system
 - Period of evaluation

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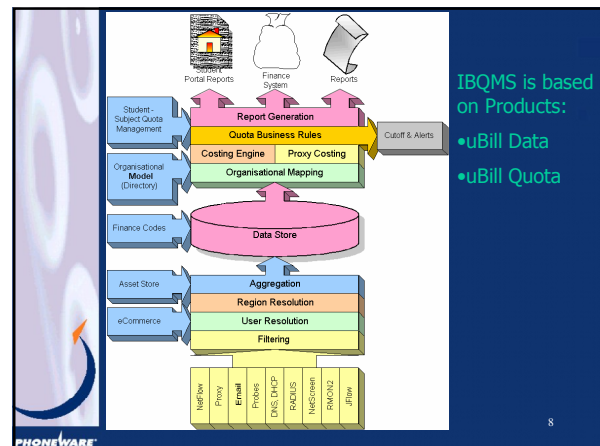


Payback – Business Risk

- Who is doing what and why?
- Is the excess usage course related?
- How to implement governance?
- What are the risks?
- What automation is possible?

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An IBQMS Installation:

- Costing Entities: 80,952 Students, 12,351 Staff, 78,001 Addresses, 25 Commercial & Affiliates
- Flow Records: 70 - 90 million per day
 - From VRN/AARNet, Proxy Farm, Ezproxy, GrangeNet
- Flows extracted, filtered, aggregated, costed & split: from 00:00 – 08:00 each day
- Split Entities: ~350,000 per day (Quota Calc.)
 - Apportioned across 10 faculties, 400 departments
 - Quota: Free, Carry Forward, Override, Purchase
- Transactions: 150 – 180 million per month

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IBQMS Installation (Cont.)

- Student Portal queries: 10 – 20 hits/sec (peak)
 - SLA response < 2 seconds
- Dynamic Proxy Rate: \$17 - \$20 per day
- Billing accuracy: < 0.25% (subject to AARNet)
 - Exported to SAP monthly
- Report Generation:
 - Most within few minutes (worst is 2 hours)
- Storage: online for >4 months, offline 7 years
- System:
 - Dual 1.8GHz cpu's, 1TB HDD, 2GB mem.
 - IBM xSeries running Linux AS2.1

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Installation Status:

- Semester 1, 2004 (1st March):
 - Live system: collect usage, quota allocations, costing, generate bills & reports
 - Coincided with 25% HECS increase, introduction of parking fees – The Age, Feb'04
 - Bedding down quota allocations, interfacing with payment systems, etc
- Semester 2, 2004 (1st July):
 - Production system: real quota's, reporting & billing
 - System is fully standalone (24 x 7)

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Critical System Factors

- Infrastructure needed:
 - Correlation of usage to user
 - Authentication / login
 - Juniper SRX, BorderManager, etc
 - Collection points:
 - Use logs from say AARNet then system is only as accurate as what [and when] they give you
 - People processes:
 - Quota management (faculties)
 - PR machine

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Critical Factors (Cont.)

- Identify costs for the services:
 - What level of granularity is good enough?
 - When is enough enough?
 - Cost / benefits – resource cost is exponential
 - Level (day vs week) of reporting
 - Collection sources – real-time vs batch
 - Dynamic proxy rate vs real-time charging
 - Charging parameters: Volume, ToD, Application, Region, User, ...
 - Reporting: staff, students, faculty, by region, quota, real & fraudulent users, who's doing what?

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Conclusion:

- Growing challenge that impacts on all universities
- Business case for implementation of IBQMS is strong
- A viable solution is available:
 - uBill Data
 - uBill Quota
- Any questions?



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