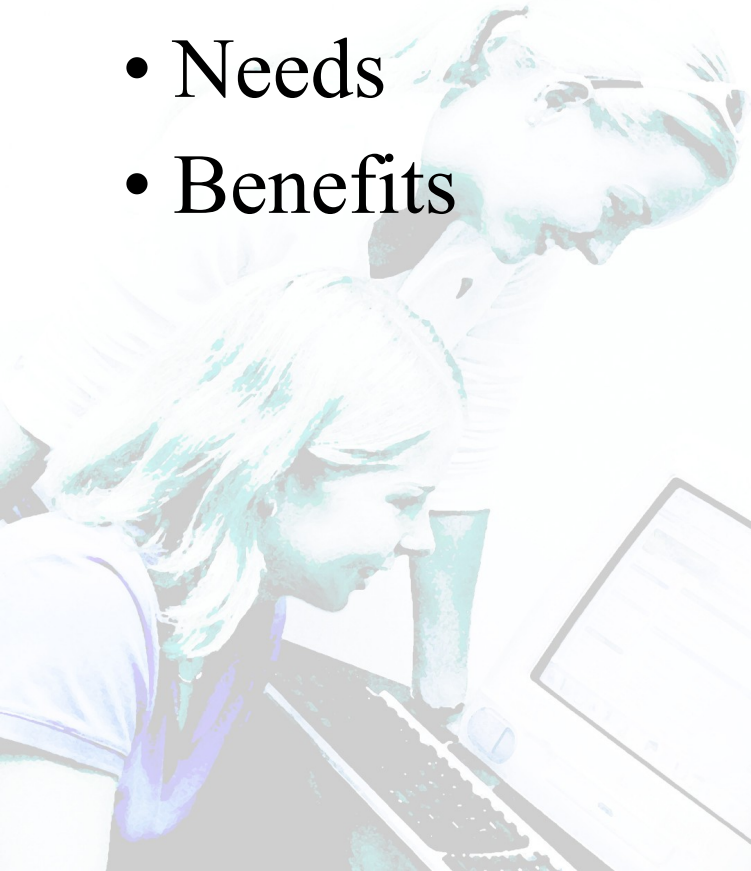




Project PICTURES

- Overview
- Needs
- Benefits





Project PICTURES

What's in a name?

- **P**resence and
- **I**ntegrated
- **C**ommunications
- **T**argeted
- **U**biquitously to
- the **R**esearch and
- **E**ducation
- **S**ectors



Overview

- Aimed at lowering and overcoming communication barriers between research collaborators
- By growing a pervasive Presence, Instant Messaging and VoIP *fabric*.
 - Based on XMPP and SIP.
 - Targeted at the Higher Education and Research sectors.
 - Reaching out and touching all researchers, academics and students in these communities.
- Focused not on the meeting paradigm.
 - But efficiently enabling the informal and impromptu interaction for which initiating a meeting represents an unnecessary barrier.
 - Alongside and interoperable with typical meeting enabling technologies.
 - Access Grid, H.323, VRVS, EVO, ...



Needs

- Email still a significant component in collaboration, but ...
- More modern communication technologies are eating away at its dominance. In particular:
 - Presence
 - Instant Messaging
 - Voice and Video
- These are becoming crucial in the process of collaboration between researchers, academics and students. But ...
- Seeing similar interoperability pains that accompanied the birth and adolescence of email.
 - Different protocols and limited points of interoperability.
- These pains will just intensify as more collaborators are working in VOs
 - cross institutional, interstate and international boundaries.
- Need to overcome collaboration barriers until the problem is fixed.



Benefits: Enhancing Communication Productivity

- Many studies identified how a Presence and Integrated Communications infrastructure can promote enterprise productivity benefits
 - An average 32 minutes/day saved by knowing the best way to reach a collaborator.
 - An average 31 minutes/day saved by reaching a collaborator via Instant Messaging.
 - An average 53 minutes/day saved by escalating an IM session to voice/video conversation.
 - 59% of workers save more than 15 to 30 minutes/day reaching collaborators using a single communication identifier regardless of location.



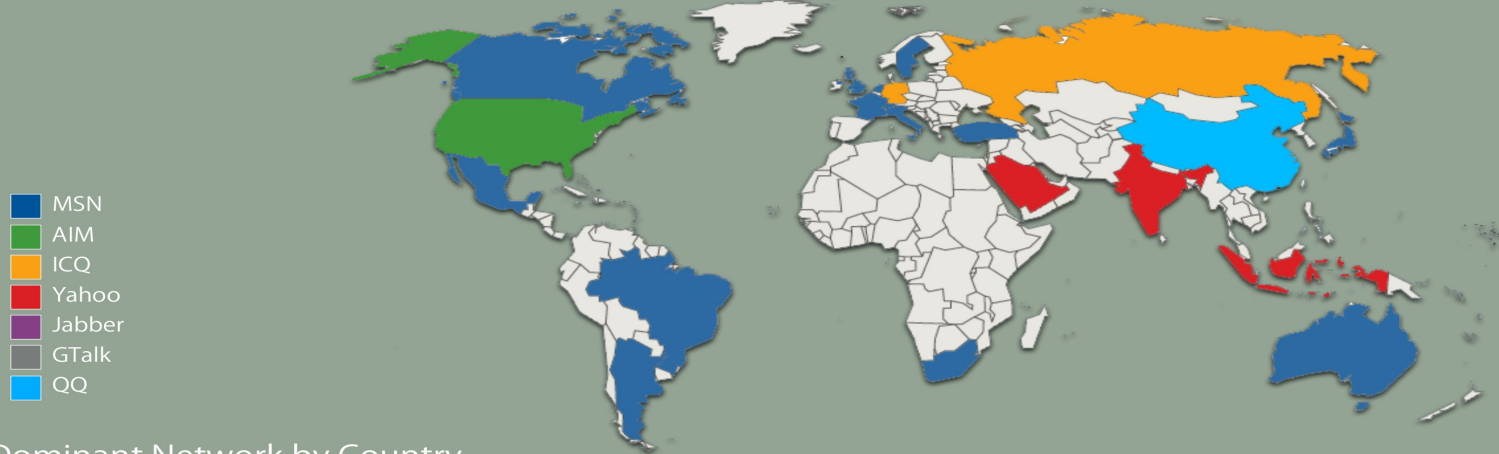
Benefits: Enhancing Communication Productivity

- US\$1727/month/travelling-employee saved due to saving long distance, hotel phone and cell phone charges.
- 83% of workers say it would be useful to see each others' status prior contacting them.
- 27% of enterprises have daily or weekly project delays due to difficulties in reaching key decision makers.
- 88% of enterprises say projects slow down or stop due to delays in reaching key decision makers
- These benefits can be translated to the Higher Education and Research sectors as a whole for the benefit of researchers, academics and students alike.
- But only if collaborating entities are “connected” over a PIC fabric(s).



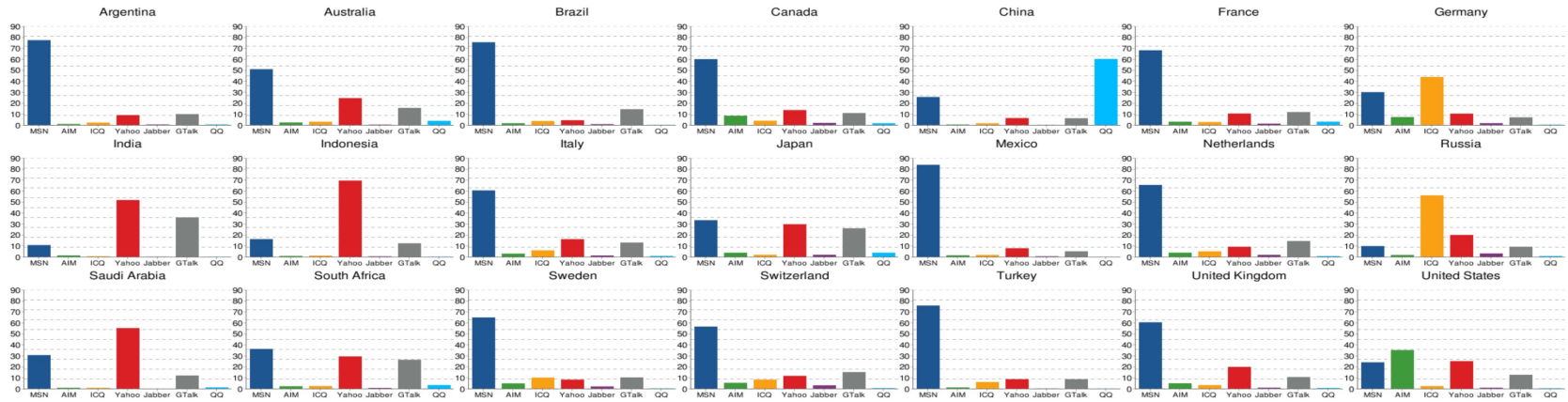
Benefits: Bridging Communication Silos

Worldwide Instant Messaging Market Share - July '08



Dominant Network by Country

Network Market Share by Country





Benefits: Bridging Communication Silos

Why create yet another PIC fabric?

- Aren't MSN, AIM/ICQ, Yahoo!, Skype, ... pervasive enough?
 - No.
 - Its all about improved connectedness between participants.
- Telephone is near pervasive.
 - 99.999% chance that any 2 people can start collaborating (once communication identifiers discovered).
- Email is similar high.
- But MSN, AIM/ICQ, Yahoo!, Skype, ... are (mostly) non-interoperable silos.
 - People need accounts in each of their collaborators' technology silos.
- Another collaboration barrier to overcome.



Benefits: Bridging Communication Silos

- Discipline and Institutional Silos exist too.
 - Research groups and some research disciplines (eg. HE Physicists) tend to use a particular collaboration tool.
 - An institution may have already deployed an enterprise-level PIC fabric which may not “connect” with other PIC fabrics.
- What if they want to “cross-fertilize” with other disciplines/institutions.
 - Another collaboration barrier to overcome.



Benefits: Communication Layer Security

- Various PIC fabrics have varying degrees of security.
 - Both at application and protocol levels.
- Understanding of risks can be obfuscated .
 - Due to the proprietary nature of the application and protocol.
- Open standards like XMPP and SIP promote better understanding of risks and transport security.
 - C2S, S2S and E2E.
 - TLS and SRTP.



Benefits

- Strong Identity Management
 - Most commodity PIC fabrics employ non-existent or weak identity management.
 - Introduces some risk concerning with whom you are collaborating, unless it is by voice or video.
 - All identities within this proposed *fabric* are managed either by a university, a research institution or similar body.
 - Participants in intra-*fabric* communications are well identified.
- Other benefits
 - *fabric* will also provide a pervasive, secure and cost effective MOM layer.
 - Application level messaging across institutional boundaries.