

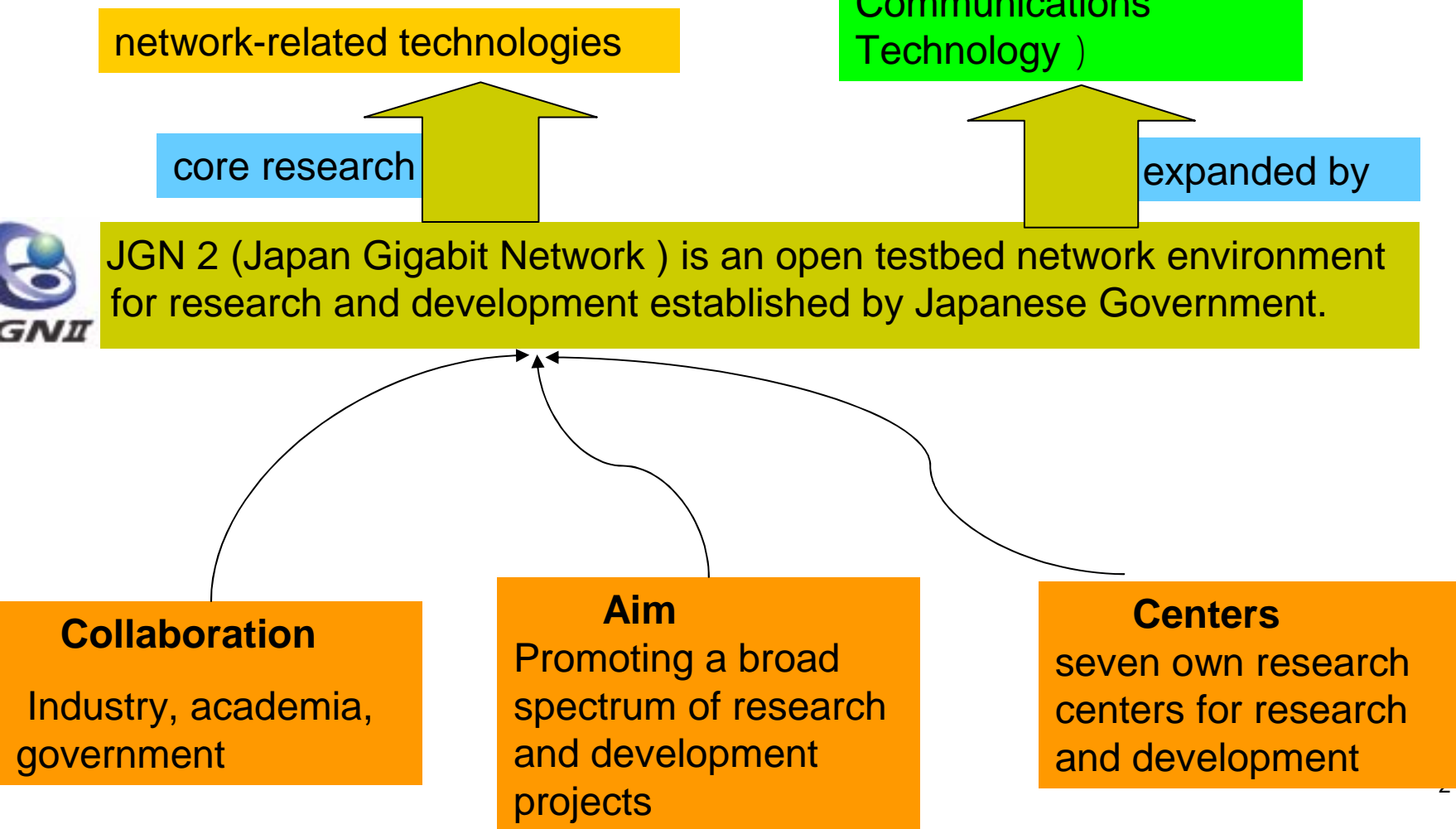
Science Integrative Middleware system



JGN2 research center , Osaka
YANG SHUO



About JGN2



Outline of JGN2 Network

August 27, 2007

Legends

- 20Gbps
- 10Gbps
- 1Gbps/100Mbps
- Optical testbed
- Access points (include PAP)
- Core network nodes (Available as access points)

- <10G>**
- Chugoku Core Network Node A (Okayama) (Hiroshima)
 - Hiroshima Moto-machi
- <1G>**
- Teleport Okayama (Okayama)
- <100M>**
- Tottori University of Environmental Studies (Tottori)
 - Techno Arc Shimane (Matsue)
 - New Media Plaza Yamaguchi (Yamaguchi)
- <PAP>***
- Hiroshima University (Higashi Hiroshima)

- <10G>**
- Kinki Core Network Node (Osaka)
 - NICT Keihanna Branch (Seika-cho, Kyoto)
 - Kyoto University (Kyoto)
 - Osaka University (Ibaraki, Osaka)
- <1G>**
- NICT Kobe Branch (Kobe)
- <100M>**
- Biwako Information Highway AP* (Ohtsu)
 - Nara Prefectural Institute of Industrial Technology (Nara)
 - Wakayama University (Wakayama)
 - Hyogo Prefecture-Nishiharima Office (Kamigori-cho, Hyogo Prefecture)

- <10G>**
- Hokuriku Core network node (Kanazawa)
 - Ishikawa Create Lab (Nomi-shi, Ishikawa Prefecture)
- <100M>**
- Toyama Institute of Information Systems (Toyama)
 - Fukui Information Super Highway AP* (Fukui)

- <100M>**
- Shin-etsu Core Network Node (Nagano)
 - Niigata University (Niigata)
 - Matsumoto Information Creative Center (Matsumoto)
- <PAP>***
- Densan Co.,Ltd. (Nagano)

- <1G>**
- Hokkaido Core Network Node (Sapporo)
 - Network Organization for Research and Technology in Hokkaido (Sapporo)

- <10G>**
- Tohoku Core Network Node (Sendai)
- <1G>**
- Tohoku University (Sendai)
 - Iwate Prefectural University (Takizawa)
- <100M>**
- Hachinohe Institute of Technology (Hachinohe)
 - Akita Regional IX* (Akita)
 - Keio University Tsuruoka Town Campus (Tsuruoka)
 - The University of Aizu (AizuWakamatsu)

- <10G>**
- Kyushu Core Network Node (Fukuoka)
- Kitakyushu AIM Building (Kitakyushu, Fukuoka)**
- <100M>**
- Kyushu University (Fukuoka)
 - NetCom Saga (Saga)
 - Nagasaki University (Nagasaki)
 - Kumamoto Prefectural Government (Kumamoto)
 - Toyonokuni Hyper Network AP* (Oita)
 - Miyazaki University (Miyazaki)
 - Kagoshima University (Kagoshima)

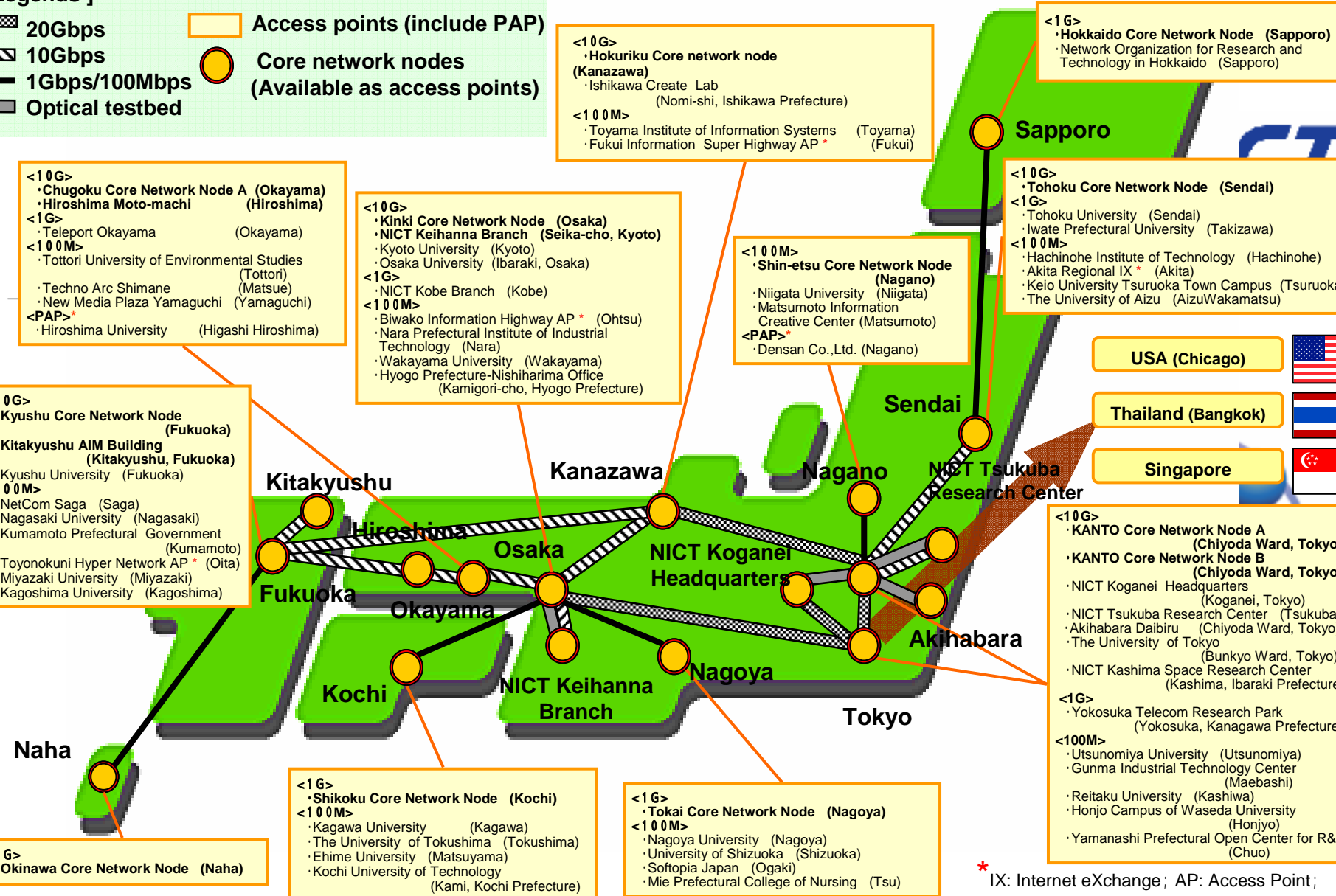
- <1G>**
- Shikoku Core Network Node (Kochi)
- <100M>**
- Kagawa University (Kagawa)
 - The University of Tokushima (Tokushima)
 - Ehime University (Matsuyama)
 - Kochi University of Technology (Kam, Kochi Prefecture)
- <1G>**
- Tokai Core Network Node (Nagoya)
- <100M>**
- Nagoya University (Nagoya)
 - University of Shizuoka (Shizuoka)
 - Softopia Japan (Ogaki)
 - Mie Prefectural College of Nursing (Tsu)

- <10G>**
- KANTO Core Network Node A (Chiyoda Ward, Tokyo)
 - KANTO Core Network Node B (Chiyoda Ward, Tokyo)
 - NICT Koganei Headquarters (Koganei, Tokyo)
 - NICT Tsukuba Research Center (Tsukuba)
 - Akihabara Daiburu (Chiyoda Ward, Tokyo)
 - The University of Tokyo (Bunkyo Ward, Tokyo)
 - NICT Kashima Space Research Center (Kashima, Ibaraki Prefecture)
- <1G>**
- Yokosuka Telecom Research Park (Yokosuka, Kanagawa Prefecture)
- <100M>**
- Utsunomiya University (Utsunomiya)
 - Gunma Industrial Technology Center (Maebashi)
 - Reitaku University (Kashiwa)
 - Honjo Campus of Waseda University (Honjo)
 - Yamanashi Prefectural Open Center for R&D (Chuo)

USA (Chicago)

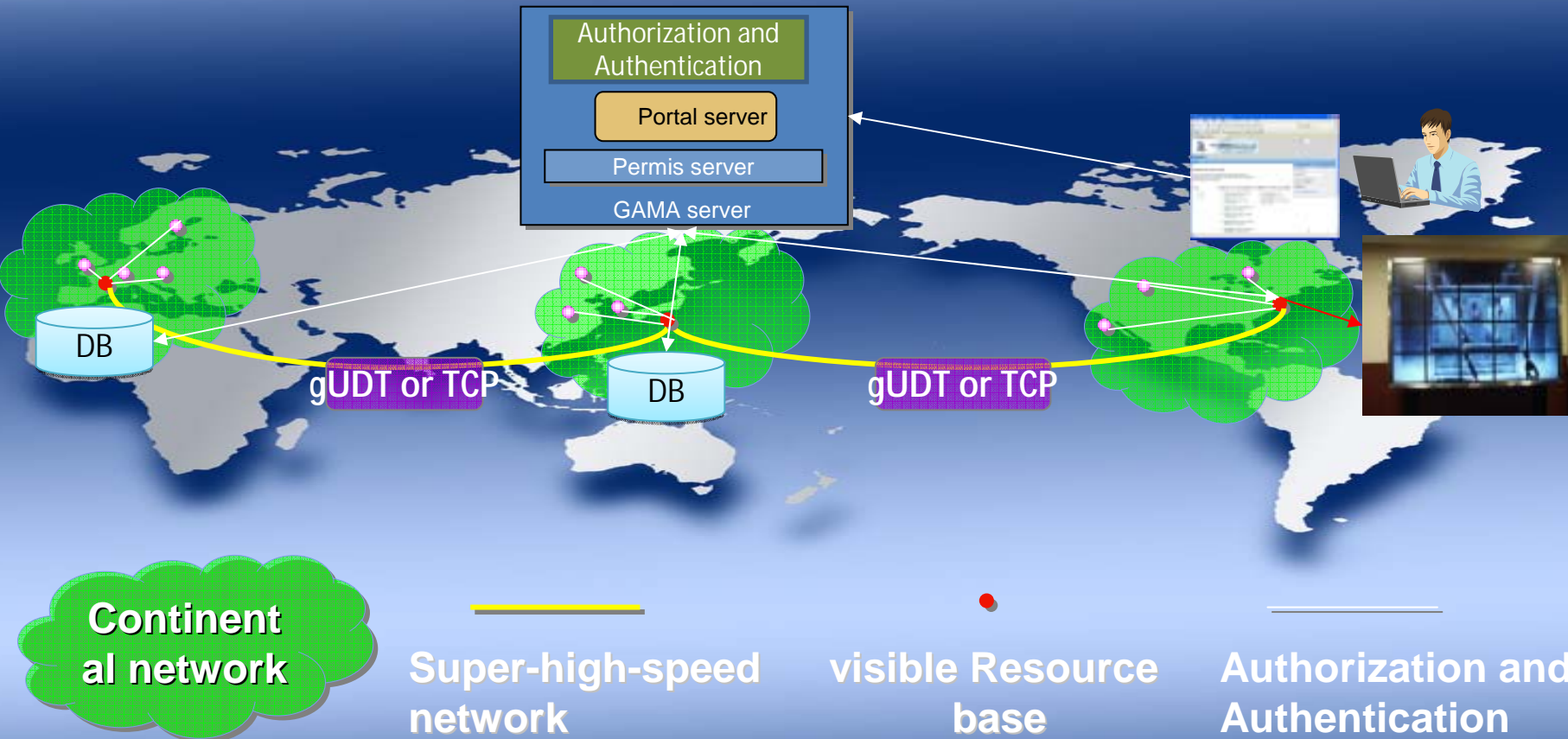
Thailand (Bangkok)

Singapore

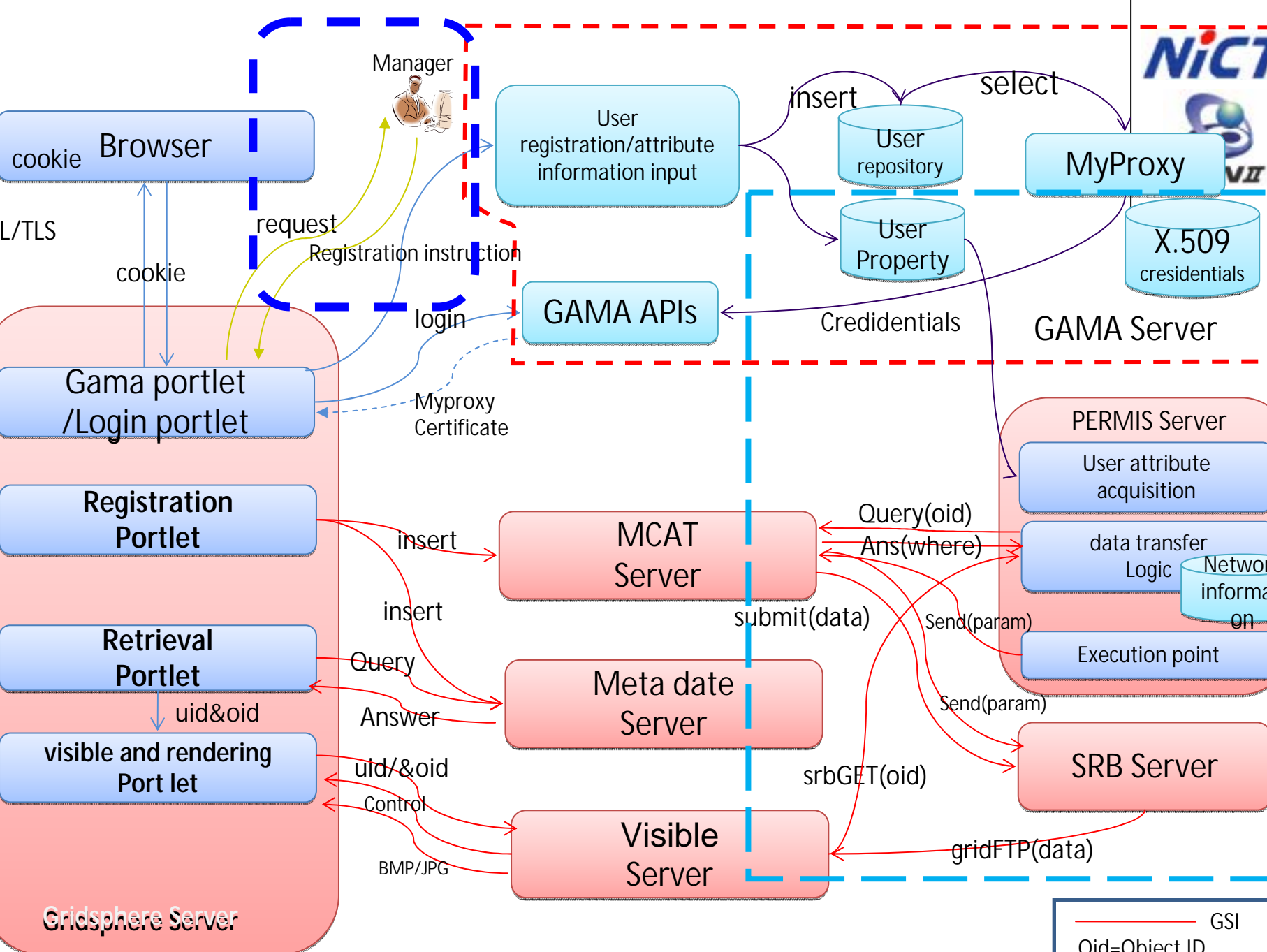


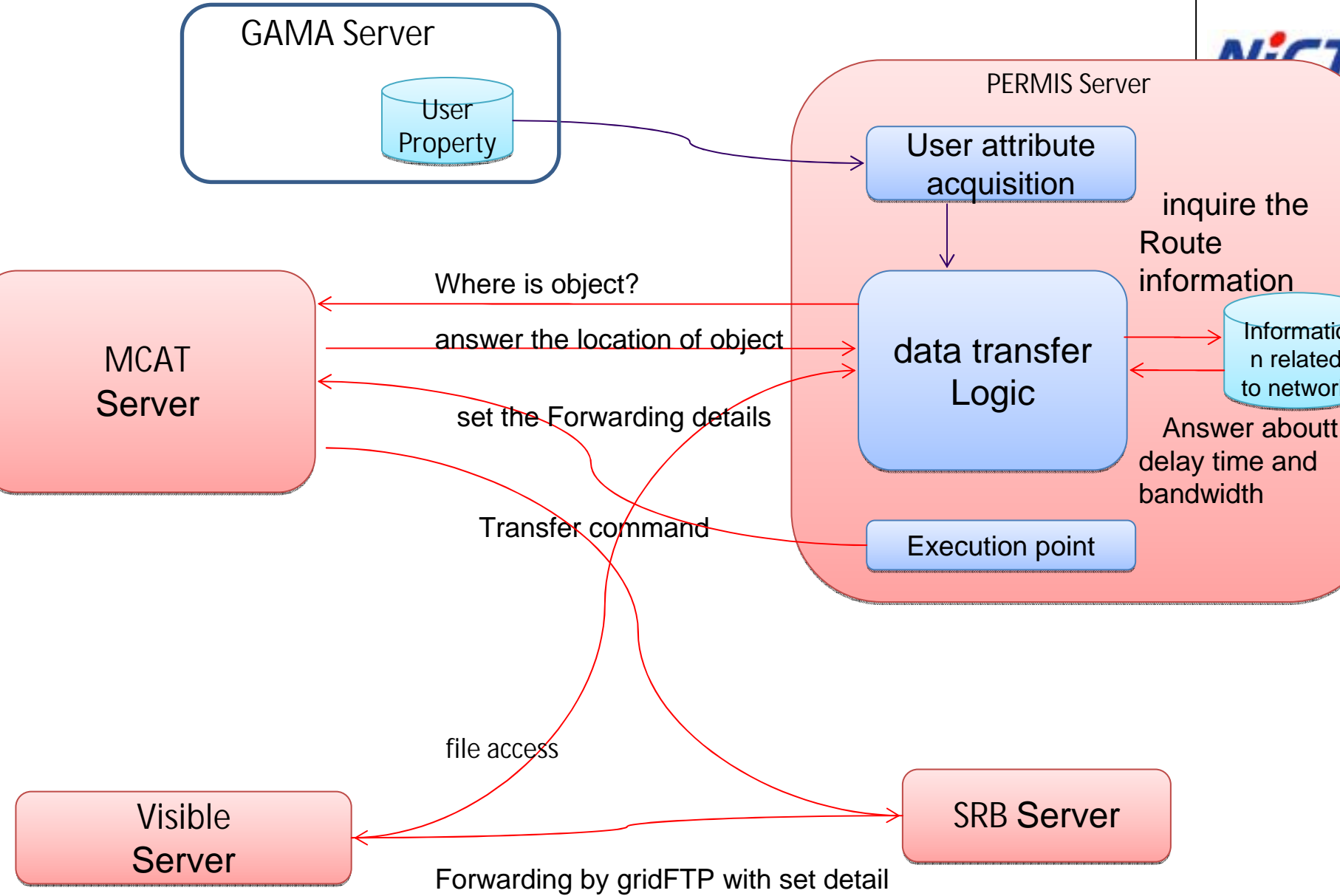
*IX: Internet eXchange; AP: Access Point;

eScience Integrative system



Middleware technology providing with visible service of eScience





Sage vs Covise

- Sage

- All image data goes through master node
- Better for video
- Master node extremely fast, tile nodes very slow
- Cannot do 3D graphics (images video only)
- Mouse only
- Organized, tidy

- Covise

- Only control data goes through master node
- Better for images (real time manipulation of multiple images)
- High-rendering tile nodes, master node does not have to be fast
- Better for virtual reality (can fly through and around 3D graphics)
- All kinds of 3D tracking devices
- Freeform, expansive



deer.jpg

2544x1696

1.9mb

- ☒ move world
- ☐ scale world
- ☐ view all
- ☐ reset view
- ☒ stop headtracking
- ☐ navigation...
- ☐ part manipulation...
- ☐ view options...
- ☐ misc...
- ☐ ClipPlane...
- ☐ Pointer
- ☐ Marker
- ☒ File Browser
- ☐ Volume
- ☐ ImagePlugin

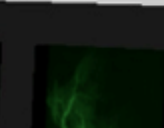
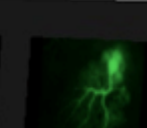
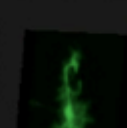
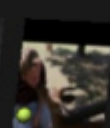
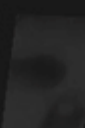
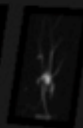
Browser Options ☐

- ☒ Open/Close Browser
- ☒ Browser Visible
- ☒ Autoscroll
- ☒ Additional Info
- ☒ Histogram
- ☐ Lock Browser

10



Set Speed



Plan

- Build PERMIS into GAMA, Instead of CAS
- Develop the Data transfer Logic
- Make a Demo in sc07