

Open Call for Expressions of Interest

In TENET's GEN3 Procurement

Issued on 27 July 2007

Introduction

This Open Call for Expressions of Interest is the formal commencement of TENET's procurement of certain electronic communications services, mainly on behalf of and for the use of the TENET institutions - some forty universities, research institutions and associated support institutions with almost 100 sites between them.

The Call is not a Request for Proposals. It does not present TENET's requirements in full details and does not call for detailed designs or costings. It is issued to enable potential service providers to understand TENET's situation and broad requirements, and to enable TENET to assess the potential of respondents to provide the required facilities and services on the scale and in the time frame required.

In a few weeks time TENET will issue a Request for Proposals to those Respondents whom TENET assesses, on the basis of the Expressions of Interest received in response to this Call, to have that potential.

Part One of this document, entitled "The Game and the Players", presents the situational background and overall framework within which the procurement is taking place. This background material is not entirely straight forward, and is presented in some detail.

New factors which, while they may add complexity, also add opportunity and value to the procurement, include:

- the continuing deregulation of electronic communications services, especially but not only as regards the provision of voice-over-IP services;
- the advent of new service providers with the potential to provide facilities and services on the scale required by TENET,
- the growth of TENET's own capacity to design and manage the core network routing infrastructure and inter-connections with other networks;
- the emergence of the UbuntuNet Alliance as an African regional research and education network; and, perhaps most significantly of all
 - the State's growing investment in the Nation's research infrastructure, and specifically in the development, through the Meraka Institute of the CSIR, of the South African Research Network, SANReN; and
 - the envisaged collaboration between the Meraka Institute and TENET, according to which Meraka will establish the SANReN infrastructure in South Africa over the next three years, and TENET will operate the transmission and routing infrastructure, be responsible for arranging peering and transit agreements with other research networks and with commercial ISPs locally and worldwide, and will, in the medium term at least, procure international connectivity for SANReN.

Part Two describes the essential requirements, avoiding inessential detail and endeavoring to specify the requirements in a way that makes it attractive for established as well as newer service providers to respond.

Part Three contains the logistical instructions to Respondents.

Part One – The Game and the Players

Who is TENET?

TENET was incorporated in August 2000 as a non-profit company in terms of Section 21 of the Companies Act. TENET is controlled by the public universities and research institutions of South Africa.

The Main Object of the Company is to undertake the role and mandate of a National Research and Education Network (“NREN”) for South Africa; and in such capacity, on a non-profit basis, to secure for the benefit of “eligible beneficiary institutions”, communications network services and communications services generally, including the benefit of new developments, resources and facilities in information and communications technology. Eligible beneficiary institutions include the public universities, statutory research councils, other appropriate national public entities and associated support institutions in South Africa

Central to the structure of this Call is TENET’s key role as the common agent and vehicle through which participating institutions collaborate to secure their connectivity requirements. These include inter-connectivity between themselves, connectivity to other research and education networks, and general Internet access. As explained further below, TENET’s role finds formal expression in the Agency Agreement between each institution and TENET and in the provisions of each service provider agreement.

In December 2000 TENET and Telkom SA executed the first service provider agreement of this nature – the Agreement for the Higher Education Inter-Networking Solution with Telkom (“HEIST agreement”). All institutions and sites that had previously connected to the then UNINET network were migrated to the HEIST network for their inter-connectivity and general Internet access services. In 1 January 2005 a second such service provider agreement – the “GEN2 agreement” with Telkom SA – superseded the HEIST agreement. The GEN2 agreement terminates on 31 December 2007.

This Call is the beginning of the process through which TENET, acting as the Agent for and on behalf of of the TENET institutions, will negotiate and execute one or more new service provider contracts that will come into force on 1 January 2008 and will secure specified electronic communications services for the TENET institutions. .

The agency model

TENET acts as the appointed agent of individual institutions in securing bandwidth for use by the institutions individually and collectively. In this document the term “TENET institution” signifies an eligible beneficiary institution to which TENET is contracted, in terms of an “Agency Agreement”, to enter into a service provider agreement on behalf of the Institution for the provision of specified electronic communications services for some or all of its campuses.

The Agency Agreement and the service provider agreement, taken together, provide, on the one hand, that each institution is a principal party to the service provider agreement, and as such is fully liable for the service charges that are due. On the other hand, taken together these agreements provide that TENET will administer the service provider agreement on behalf of all participating institutions. In particular, all processes regarding placing of orders, acceptance of commissioning of orders, invoicing for services rendered, receiving of payments from the institutions and payments to the service provider are handled through TENET. This enables the service provider to submit a single consolidated invoice to TENET, and for TENET to make a single consolidated monthly payment to the provider.

Importantly, the service provider agreements provide for the service provider to deal directly with the institutions as regards the operational support of the services, including installations

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and upgrades; pro-active service monitoring and reporting; detection, diagnosis and rectification of faults.

TENET maintains a comprehensive database and administration system that has been used over the past six years in administering the HEIST and GEN2 collaborative service provider agreements.

This contractual structure, which significantly reduces the administrative overhead required of the service provider, has worked flawlessly through the HEIST and GEN2 eras.

Appendix 1 gives additional information about the nature of the Agency Agreement in terms of which TENET is authorised by an Institution to act as the Institution's agent.

Who are the TENET institutions?

Appendix 2 contains a list of all the TENET institutions and their campuses (sites) that are connected to the GEN2 network as at the date of this document.

Note that the list of TENET institutions includes all 23 South African public universities; most, but not all of the public research councils, several associated support organisations such as the National Library of South Africa and the Council for Higher Education; and two universities in neighbouring countries.

TENET anticipates that most, if not all of TENET institution listed in Appendix 2 will authorise TENET to enter into the envisaged GEN3 agreement on their behalf and to manage the migration of their campuses, as listed in Appendix 2, from the GEN2 network to the GEN3 one. However some TENET institutions may elect not to do this. TENET institutions will be asked to take this decision prior to TENET's conclusion of GEN3 service agreements with any provider.

In addition, at any time, eligible beneficiary institutions that are not reflected in Appendix 2 may appoint TENET as their agent and authorise TENET to secure communications services in respect of some or all of their campuses.

Bandwidths and spends

In terms of the GEN2 agreement, the TENET institutions currently share some 200 Mb/s of dedicated international bandwidth via the SAT-3 cable. Internationally, routes to the GEN2 sites are announced to Telkom SA's major upstream transit providers in four locations: Ashburn, Va; New York City; Amsterdam and London. In South Africa, SAIX handles all peering with other ISPs. The aggregate site connection bandwidths to the GEN2 cloud of the 100 sites is just over 300 Mb/s.

As will be reflected in TENET's Annual Report for 2006, the aggregate spend (excluding VAT) for the entire year was R64,212,828, which is 29.5% higher than the corresponding figure for 2005.

Projections from these figures suggest that by January 2008, the institutions' aggregate spend on inter-connectivity and Internet access will be at least R8 million per month.

Co-location and hosting facilities

TENET will secure hosting and co-location facilities for several External Gateways and Data Centres to which the GEN3 network will connect.

Importantly, such hosting and co-location facilities and associated services will be procured separately and not as part of the GEN3 procurement. However, the GEN3 service provider will be required to provide connectivity to these facilities as part of the GEN3 contract.

TENET's Beachhead Facility is an example in this regard. It is hosted by Telkom SA at its Bellville Hosting Facility in terms of a separate hosting contract. From the Beachhead

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Facility TENET provides a number of important services to the TENET institutions, including web-caching, mirroring of large datasets, DNS services and IPv6 tunnel brokering.

TENET envisages that in the GEN3 era, the Beachhead Facility will continue as an important Data Centre and will also play an important gateway role, especially as regards inter-connectivity between the GEN2 and GEN3 networks during the transition period, but also, potentially, as an External Gateway with connections to other networks.

TENET is in the process of securing hosting and co-location services for a new TENET External Gateway in Johannesburg, to be known as “the Reefhead Facility”. An announcement will be made in this regard shortly.

The GEN3 service provider will be required to provide high bandwidth connectivity to the Beachhead and Reefhead Facilities.

In due course, in consultation with the GEN3 service provider, TENET may establish further External Gateways and/or Data Centres in other locations as well.

Peering and transit inter-connections with other networks

TENET intends to arrange all peering and transit connections between the GEN3 network and the networks of third parties, including those of the GEN3 service providers, separately from the GEN3 agreement. All such inter-connections will be made from TENET’s External Gateways, and will be under TENET’s operational control. This includes inter-connections with other research and education networks in South Africa, in other African countries and in the World generally, and with South African and foreign commercial ISPs.

As regards peering with South African ISPs, TENET is willing to enter into settlement-free peering agreements with any bona-fide ISP that operates in South Africa.

TENET would prefer, as far as is possible, to meet South African networks at the Johannesburg Internet Exchange (JINX), but will consider alternative arrangements as well.

TENET is an honorary member of the Internet Service Providers Association (ISPA).

SANReN

For several years the Department of Science and Technology (DST) has been planning to establish a new high-bandwidth network, to be called the South African National Research network (SANReN), as part of the Nation’s research infrastructure. In 2005 the DST appointed the Meraka Institute of the CSIR to deploy SANReN.

In March 2007, the Minister of Finance announced that some R450 million would be made available over three years, and deployment of SANReN has commenced.

The Meraka Institute and TENET are collaborating to design and deploy a single national research and education network. Meraka and TENET envisage entering into a formal collaborative agreement within the next few weeks. Provisional plans envisage the following developments:

- Meraka, with the above-mentioned capital monies at its disposal, will focus on securing the high-bandwidth infrastructure for SANReN within South Africa over the coming two to three years;
- sites (campuses) of all TENET institutions will eventually connect to SANReN and receive most of the electronic communications services they require through SANReN;
- the connection of sites to SANReN will start soon. As regards sites located in metropolitan areas, the migration should be almost complete by the end of 2008. Connections to sites in most outlying locations will take longer.

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- TENET will secure the routing overlay, will operate SANReN, and will normally handle the contractual and administrative interfaces with institutions, with equipment suppliers, and with other networks;
- TENET will secure the connectivity with other networks and associated peering and transit services that SANReN requires, nationally and internationally.
- Services provided by TENET from its Beachhead and Reefhead Facilities will be available to all SANReN sites.

The UbuntuNet Alliance

The UbuntuNet Alliance for Research and Education Networking was incorporated in August 2006 as a non-profit association in the City of Amsterdam. Its members are the NRENs of Sub-Saharan Africa. TENET is a founding member¹. UbuntuNet's purpose is to establish and operate a *regional* research and education network that inter-connects its member NRENs and provides them with shared international connectivity to the other NRENs of the World and to the Internet generally.

Two strategies of UbuntuNet impact upon TENET's GEN3 requirements.

- First, UbuntuNet has established a routing hub in Telecity, London. From this London Hub, UbuntuNet will soon connect to the famous European regional research and education network known as Géant (and hence to all European NRENs), and also to major upstream Internet transit providers.

Consequently member NRENs can connect to Géant and to the Internet generally by connecting to UbuntuNet's London Hub. TENET intends to do just this.

- Second, UbuntuNet envisages inter-connecting the NRENs of Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa and Swaziland, so forming what it refers to as "the UbuntuNet South Cluster" and providing the Cluster with shared regional and international connectivity via the SAT-3 and/or other submarine cables that may become available.

TENET has taken responsibility for advancing this strategy, and envisages co-locating an "UbuntuNet South Hub" at the Reefhead Facility (a TENET External Gateway in Johannesburg – see above), at which the various NRENs of the Cluster, including TENET, will inter-connect, share peering and transit relationships with other South African networks, and share an international submarine cable connection to the UbuntuNet Hub in London.

Note that trans-border connectivity between each foreign NREN and the UbuntuNet South Hub will be procured separately and not as part of the GEN3 process.

TENET's VoIP Procurement

TENET is currently procuring VoIP services on behalf the TENET institutions. The VoIP procurement is being handled entirely separately from the GEN3 procurement. However a key concept in the VoIP procurement is that the GEN2 network, and subsequently the GEN3 network, may be used to carry voice traffic between the campus PBXs and specified central gateways at which the voice traffic would break out into the VoIP provider's network.

¹ The founding members of the UbuntuNet Alliance were KENET (Kenya), MAREN (Malawi), MoRENet (Mozambique), TENET (South Africa) and RwEdNet (Rwanda). SUIN (Sudan) joined in February 2007. Applications to join are expected from Burundi, Botswana, DRC, Lesotho, Namibia, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe as soon as the NRENs that are being founded in these countries are duly incorporated. Membership is open to any bona-fide NREN of any country in Sub-Saharan Africa.

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The VoIP procurement is well advanced. Proposals have been received from most vendors that operate in the VoIP market, and are being evaluated.

Thus TENET has every expectation that the GEN3 network will carry VoIP traffic between many sites and one or both External Gateways.

Part Two – Essential GEN3 Requirements

Introduction

TENET needs to secure general Internet access services for the approximately 100 sites of some 40 institutions during the two-year period 1 January 2008 to 31 December 2009, in terms of “GEN3 agreements” with one or more service providers that will supersede the current GEN2 agreement with Telkom SA.

To this end TENET has already or will secure certain facilities and services outside of this GEN3 procurement, and will secure certain facilities and services within it.

Requirements excluded from this GEN3 procurement

For the sake of clarity, it is emphasized that TENET has already secured or will secure the following facilities and services **outside** of the GEN3 procurement that this Call initiates:

- **Layer 3 services from the External Gateways:** Layer 3 services between the external Gateways and major Internet Service Providers in Europe, the USA and elsewhere;
- **National connectivity from the External Gateways:** Inter-connections from one or both of the external Gateways and major South African Internet Service Providers, and associated Layer 3 services;
- **Hosting of External Gateways:** Hosting services for the Beachhead External Gateway, (which is hosted at Telkom SA’s Bellville Hosting Facility) and the Reefhead External Gateway, which will be located in Johannesburg at a location to be announced shortly;
- **Inter-connections with other UbuntuNet NRENs:** Inter-connections between the Reefhead External Gateway and NRENs of the countries in the UbuntuNet South Cluster.

Requirements that are included in this GEN3 procurement

The following “GEN3 services” will be secured through this GEN3 procurement:

- **International connectivity:** at least 300 Mb/s at Layer 2 between (a) either the Reefhead External Gateway in Johannesburg or the Beachhead External Gateway in Bellville, and (b) the UbuntuNet London Hub in Telecom, London. This connectivity is to use dedicated bandwidth on the SAT-3 WASC cable, with automatic failover to the SAFE cable, and with GigE hand-offs at both ends.
- **Inter-Gateway connectivity:** A 1 Gb/s Layer 2 connection between the Beachhead and Reefhead External Gateways, with GigE handoff at both ends.
- **Site connections:** A connection between each site and, depending on the site, either the Beachhead or the Reefhead External Gateway. Each site connection will be specified in terms of the dedicated last-mile connection bandwidth at the site.

Site connections may be point-to-point connections or via a provider-specified backbone network or cloud. It will be left to the discretion of Proposers to architect a suitable backbone network or cloud and local site connections, and to propose the nature of customer premises equipment.

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One possibility is an MPLS cloud including a router at each customer premises, and using various last-mile technologies depending on the site location and required bandwidth. However, proposers should feel free to propose different architectures.

TENET will procure all these GEN3 services on behalf of those institutions that have authorised TENET to do so as their Agent for this purpose.

Additional comments about the requirements

Site connections: As noted above, a “site connection” connects a GEN3 site to one of the External Gateways at a specified bandwidth.

TENET anticipates that site connections will normally use optical fibre or other high-speed fixed circuit infrastructures and technologies. However, for use in connecting smaller sites, TENET wishes to be able exploit, where appropriate, local site connections that involve low cost, low bandwidth technologies such as ADSL and HSDPA, which may be provided by or involve vendors other than the GEN3 service provider.

Consequently it is useful to draw a distinction between “normal site connections” and “alternative site connections”. A “**normal site connection**” is one that is under the direct end-to-end operational control of the GEN3 service provider. Site connections that are not normal will be referred to “**alternative site connections**”.

Like normal site connections, alternative site connections must connect sites to one of the External Gateways. All external connectivity, nationally and internationally, will be provided to such sites via the External Gateway in the same way as for sites with normal site connections.

In addition, alternative site connections should:

- not be subject to any form of usage-based capping;
- should provide for TENET to authenticate site connections; and
- should provide for IP addresses for sites’ interface connections to be assigned by TENET from a pool of IP addresses under TENET’s control.

Remarks on sizing: Appendix 1 lists the present GEN2 sites and their present site connection bandwidths. At this stage, these bandwidths should be taken as indicating only the *relative* size of the site connections, rather than the absolute requirements.

Specifications of the initial international bandwidth and the initial site access bandwidths will be made as part of the final agreement with the selected service provider, and will depend on the agreed prices and on instructions received by TENET from the institutions.

While an institution’s sites are connected to the GEN3 network, the institution must be able to order, through TENET as its agent, changes to the sites’ connection bandwidths.

TENET must be able to order changes to the international bandwidth as the aggregate demand from the sites changes.

Migration of sites to the GEN3 network and to SANReN: For reasons that are set out in Part One, the GEN3 service provider contracts must provide for:

- The systematic migration of sites starting in January 2008, from the GEN2 network to the GEN3 network, and, perhaps in some cases, directly from the GEN2 network to SANReN;
- the piecemeal migration of sites from the GEN3 network to SANReN;
- The provision from 1 January 2008 of international connectivity not only to as-yet-unmigrated GEN2 sites and GEN3 sites, but also to SANReN sites.

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Interactions with the UbuntuNet Alliance: For reasons that are set out in Part One, the GEN3 service provider contracts must provide for:

- From the outset – i.e. from 1 January 2008 – the international connection required by TENET will run between UbuntuNet’s London Hub and the Beachhead Facility and/or the Reefhead Facility;
- The GEN3 contract must provide for international connectivity to be provided also to other UbuntuNet NRENs at the UbuntuNet South Hub. This requires the service provider to admit any UbuntuNet member NREN, upon nomination by TENET, to the GEN3 contract as a deemed TENET site, with TENET itself being liable for payment of service charges that are due in respect of such deemed TENET sites; and
- If international connectivity is provided at the Beachhead Facility and/or any TENET External Gateway other than the Reefhead Facility, the GEN3 network will transit “UbuntuNet” traffic between that other External Gateway and the Reefhead Facility.

IPv6 Roadmap: Proposals will be required to include the Proposer’s IPv6 roadmap.

Possibility of SANReN’s funding extensions of operator’s networks

TENET understands that in order to accelerate the development of SANReN, an invitation to licensed operators may be soon issued to enter into mutually beneficial agreements that will provide for Meraka to fund specific extensions of the operator’s optical fibre infrastructure that would be of value to SANReN, and to receive in return long-term rights to specified connectivity services from the operator.

This possibility could be of great interest to potential GEN3 service providers.

Part Three – Instructions for Responding to this Call

To who is the Call directed?

This Open Call for expressions of Interest is directed to all service providers who are licensed or deemed to be licensed to provide electronic communications services in South Africa.

To whom will an RfP be extended?

TENET intends to extend a Request for Proposal to service providers who have responded affirmatively to this Call for Expressions of Interest, and who, in their responses, provide evidence to TENET’s satisfaction of the potential to provide the required services on the require scale and within the required time frame.

Level playing field

TENET undertakes to manage the GEN3 procurement processes strictly in a manner that does not advantage any service provider over any other one.

It is specifically noted that under the GEN2 Agreement, each TENET institution and TENET itself appointed Telkom SA as its preferred supplier of certain electronic communications services until 31 December 2007, but that these preferred supplier commitments have no bearing on the present Call, which concerns the provision of services that start only on 1 January 2008.

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Invitation to Respond to this Call for Expressions of Interest

General instructions: Service providers who are interested in participating in the GEN3 procurement are invited to respond to this Call for Expressions of Interest.

Responses should chiefly comprise information about the Service Provider. This should include information about the Respondent's:

- identity, constitution, purpose and mission,
- main services offered in the South African market;
- current customer base for networking and Internet services;
- key partners and upstream providers;
- willingness to enter into a settlement-free peering agreement with TENET, and whether the parties might meet at JINX or elsewhere;
- current network and other facilities that could be applied for provisioning the GEN3 network and services as described in this document
- current network and facilities expansion projects;
- operations practice, network management practice, approach to service level management.

In addition, TENET invites Respondents to comment freely on the information provided in this document.

Designs and prices are not required: *Responses to this Call should not include detailed network designs nor proposals as regards pricing. These will be requested in the RfP that will be issued in August 2007.*

Consortia: If a consortium of service providers should wish to submit a joint proposal, the consortium should identify one of its members as the "managing service provider". The managing service provider will submit the consortium's proposal, will represent the consortium to TENET and be the entity that takes formal responsibility for the proposal and for any service provider contract that might ensue.

Format: There is no prescribed format for responses. Responses should be provided in writing (printed and faxed or emailed as a PDF file attachment), to reach the Contact Person at the address given below.

Deadline for responses: Responses should reach the Contact Person on or before 16:30 on Monday 13 August 2007.

Queries: Any party that intends to provide such information and desires further information about the GEN3 procurement is welcome to call or email the Contact Person given below.

Contact Person: Richard Jonathan
Street address: Tertiary Education Network
House Vincent, Wynberg Mews
10 Brodie Road
Wynberg 7800

Email address: responses@tenet.ac.za

Telephone: (021) 763 7145

Facsimile: (021) 763 7117 (marked "For attention: Richard Jonathan")

Appendix 1 Billing and payment processes via TENET as agent

The billing and payment processes described below are provided for in the current Agency and service provider agreements. TENET has six years of experience in their application and uses specially developed information systems to support their administration.

Billing: At the end of each month, TENET issues a “pro-forma invoice” to each institution, specifying the service charges that are due per service per campus, taking into account upgrades and other changes that occurred since the previous pro-forma invoice.

At the same time, to enable the service provider to allocate the amounts paid to it by TENET, TENET sends the service provider a consolidated “pro-forma invoicing report”, that details, for each site of each institution, the service quantities as commissioned at the beginning of the month as well as any service changes that occurred during the previous month, and associated charges and adjustments as reflected on the pro-forma invoices sent to the institutions. After checking the pro-forma invoicing report, the service provider sends a consolidated tax invoice to TENET that contains the same details. TENET is obliged to retain these consolidated tax invoices.

SARS VAT directive: Importantly, although the pro-forma invoices are not tax invoices, under a special VAT Directive issued by SARS the institutions may use the pro-forma invoices to substantiate input VAT claims.

Payment: The institutions are obliged to pay the service charges plus VAT over to TENET against the pro-forma invoice issued by TENET. Concomitantly, against the consolidated VAT invoice from the service provider, TENET is obliged to pay over to the service provider any monies received from the institutions as payments against the pro-forma invoices.

When making payments to the service provider on behalf of the Institutions, TENET provides a consolidated Payment Report that reflects each institution’s balance due to the service provider at the end of the previous month, the total amount charged to the institution for new services, the amount being paid to the service provider on behalf of the institution, any new interest that is due in respect of overdue amounts; and the resulting net balance due by the institution.

This two-step payment process requires some additional days after the expiry of the normal thirty days. Consequently TENET’s payment on behalf of the institutions in respect of any consolidated invoice from the service provider must be paid and presented to the service provider on or before the 32nd day after the invoice date (or the first working day thereafter).

Indemnification and remedies: TENET is obliged to keep and maintain full records, and to make its records available for inspection by the service provider upon request. TENET also indemnifies the service provider against any claims or disputes resulting from any incorrect allocation of funds received from any institution.

If TENET fails to make a payment to the service provider or fails to present the Pre-Invoicing and Payment Reports as required, the service provider may give TENET written notice of its intention to institute proceedings to recover such amounts as may be overdue. If, after the lapse of three working days from the receipt of such notice (“the notice period”), TENET has still failed to make a payment to the service provider or has failed to present the Pre-Invoicing and Payment Reports, the service provider is entitled to gain access to TENET’s accounting records and bank statements relating to payments by the institutions for the services; and to institute proceedings in accordance with its notice to TENET.

TENET’s own cost recovery: By means of an entirely separate tax invoice, TENET may bill the institution such cost-recovering agency fees and other charges as are provided for in the Agency Agreement.

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Appendix 2 List of TENET institutions and sites

Below is a list of all the TENET institutions and their campuses (sites) that are connected to the GEN2 network as at the date of this document, showing their locations and current backbone connection bandwidths.

Institution and Site	City	Current Backbone Connection (kb/s)
<i>Cape Higher Education Consortium</i>		
- CALICO Systems	Century City	1472
<i>Cape Peninsula University of Technology</i>		
- Bellville Campus	Bellville	6904
- Cape Town campus	Cape Town	6400
<i>Central University of Technology, Free State</i>		
- Kimberley Campus	Kimberley	200
- Main Campus	Bloemfontein	4424
<i>Council on Higher Education</i>		
- Didacta Building	Pretoria	164
<i>CSIR</i>		
- Stellenbosch	Stellenbosch	512
- Satellite Applications Centre	District Krugersdorp	512
- Pretoria	Pretoria	9280
- Miraculum	Halfway House	1024
- JHB Mining	Emmarentia	512
- JHB BioSciences	Johannesburg	512
- Durban	Pretoria	512
- Port Elizabeth	Port Elizabeth	512
- Bio-Medical Informatics Centre	Pretoria	512
<i>Durban University of Technology</i>		
- Riverside Campus	Pietermaritzburg	1032
- Steve Biko Campus	Durban	3904
- ML Sultan Campus	Durban	2488
<i>Eastern Seaboard Association of Tertiary Institutions</i>		
- Central Applications Office	Durban	344
<i>Fort Cox College of Agriculture and Forestry</i>		
- Main Campus	King Williams Town	272
<i>Higher Education South Africa</i>		
- Head Office	Pretoria	144
<i>Human Sciences Research Council</i>		
- Main Campus	Pretoria	2048
<i>iThemba Laboratory for Accelerator-Based Sciences</i>		
- Faure Site	Faure	1280
- iThemba LABS (Gauteng)	Johannesburg	280
<i>Iziko Museums of Cape Town</i>		
- SA Museum	Cape Town	376
<i>Mangosuthu Technikon</i>		
- Umlazi Campus	Durban	1024
<i>Medical Research Council</i>		
- Main Campus	Bellville	2064
- External Users Site	Bellville	1616
<i>National Library of South Africa</i>		
- Mangaung Library Services	Bloemfontein	136
- Cape Town	Cape Town	304
- Pretoria	Pretoria	288
- Mzunduzi Municipal Library	Pietermaritzburg	144
<i>National Research Foundation</i>		
- Hartebeesthoek Radio Astronomy Observatory	District Krugersdorp	296
- Hermanus Magnetic Observatory	Hermanus	312
- Research Support Agency, Pretoria	Pretoria	1504
- Pretoria National Zoological Gardens	Pretoria	540

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National University of Lesotho		
- Main Campus	Roma 180, Lesotho	1024
Nelson Mandela Metropolitan University		
- South Campus	Port Elizabeth	3048
- North Campus	Port Elizabeth	3244
- South Campus Library	Port Elizabeth	520
North West University		
- Mmabatho Campus	Mmabatho	2520
- Potchefstroom Campus	Potchefstroom	10032
Rhodes University		
- Gauteng Liaison Office	Johannesburg	256
- Main Campus	Grahamstown	10456
SA Agency for Science and Technology Advancement		
- Main Campus	Pretoria	392
SA Astronomical Observatory		
- Sutherland	Sutherland	1536
- Observatory	Cape Town	1536
Sabinet Gateway		
- Main Campus	Pretoria	1024
Tertiary Education Network		
- Brodie Road	Wynberg	376
- Johannesburg Site	Johannesburg	128
Tshwane University of Technology		
- ERC Garankuwa	Pretoria	928
- Ga-Rankuwa Main Campus	Garankuwa	928
- Soshanguve Main Campus	Soshanguve	3352
- I-Centre, Soshanguve South	Pretoria-North	320
- Library, Pretoria Campus	Pretoria	680
- Pretoria Campus ERC B20	Pretoria West	552
- Pretoria Campus ERC B44	Pretoria West	552
- Pretoria Campus	Pretoria	7912
- Arts Campus Internet Laboratory	Pretoria	192
- Arcadia Internet Laboratory	Pretoria	320
- Nelspruit Campus	Nelspruit	1280
- Polokwane Campus	Polokwane	784
- Witbank Internet Laboratory	Witbank	192
- Polokwane Campus Internet Laboratory	Polokwane	192
- Witbank Campus	Witbank	960
- Nelspruit Campus Internet Laboratory	Nelspruit	192
University of Cape Town		
- Main Campus	Cape Town	26048
University of Fort Hare		
- Bisho Campus	Bisho	792
- East London Campus	East London	808
- Alice Campus	Alice	4392
University of Johannesburg		
- Auckland Park Bunting	Johannesburg	2048
- Doornfontein (DFC)	Johannesburg	2848
- Auckland Park	Johannesburg	11184
University of KwaZulu-Natal		
- Pietermaritzburg Campus	Pietermaritzburg	3616
- Durban Campus	Durban	13936
- Premium service at Durban	Durban	2384
- AfricaCentre - Somkhele	Somkhele	800
University of Limpopo		
- Medunsa campus	Medunsa	2992
- Turfloop Campus	Sovenga	6880
University of Pretoria		
- Onderstepoort Campus	Pretoria	336
- Medical Campus	Pretoria	400
- Main Campus	Pretoria	14200

TERTIARY EDUCATION NETWORK

University of South Africa		
- Florida Campus	Johannesburg	2336
- Main Campus	Pretoria	15416
University of Stellenbosch		
- African Institute for Mathematical Sciences	Muizenberg	560
- Main Campus	Stellenbosch	18008
University of Swaziland		
- Main Campus	Manzini, Swaziland	320
University of the Free State		
- Main Campus	Bloemfontein	10016
University of the Western Cape		
- Main Campus	Bellville	11352
University of the Witwatersrand		
- Agincourt Health and Population Unit	Nelspruit	280
- Main Campus	Johannesburg	23952
University of Venda		
- Main Campus	Thohoyandou	3240
University of Zululand		
- Main Campus, kwaDlangezwa		1928
Vaal University of Technology		
- Main Campus	Vanderbijlpark	5616
Walter Sisulu University		
- College Street Campus	East London	2424
- Chiselhurst Campus	Butterworth	1536
- Butterworth Campus	Butterworth	2304
- Umtata Campus	Umtata	1984
Water Research Commission		
- Main Campus	Pretoria	640