

Technology for Educational Achievement (TEACH)

Email: teach@wisconsin.gov

Phone: 608-261-5054 Fax: 608-223-7750

Implementation of the BadgerNet Converged Network (BCN) Contract Extension

November 4, 2011

A program administered by the Wisconsin Department of Administration, Division of Enterprise Technology.

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TEACH Program Description

Technology for Educational Achievement (TEACH) is a program of the Wisconsin Department of Administration, Division of Enterprise Technology. TEACH subsidizes much of the cost to provide telecommunications access (e.g. internet transport (ITp), WAN, HPLL WAN, and video) to eligible educational agencies. The TEACH Program is authorized under Chapter 16, Subchapter IX of the Wisconsin Statutes.

The Department of Administration works in cooperation with school districts, cooperative educational service agencies, charter schools, libraries, secured juvenile correctional facilities, private colleges, tribal colleges, the technical college system board, and the board of regents of the University of Wisconsin System to promote the efficient, cost-effective procurement, installation, and maintenance of broadband.

Section A: TEACH Contract Extension and Upgrade Guidelines

A.1 Contract Extension Basics

The Department of Administration (DOA) has negotiated and signed a 5-year contract extension with AT&T to extend the BadgerNet Converged Network (BCN) contract to November 1, 2016. With this contract extension, TEACH is able to offer increased bandwidths under its cost sharing program as well as reduced retail rates for educational institutions that need more capacity than can be subsidized within the TEACH budget. See TEACH Wisconsin website for a complete list of the rates.

- TEACH will now pay a single rate for any combination of internet transport, WAN, and HPLL bandwidth. In the past, each service was charged to TEACH separately which resulted in much higher total costs and diminished ability of TEACH to fund greater total bandwidth for its customers.
- TEACH can now begin implementing bandwidth increases up to 100Mbps per site, as
 has been discussed in the past. The increases will not take place automatically.
 Each site will need to complete a service request form in order to receive an
 upgrade.
- There is a new TEACH portal available to check on your current service types and amounts. You can also complete an on-line order form from the portal that goes directly to TEACH for approval without the need to e-mail or fax a copy. For the fastest response time to your request, we suggest you file your form electronically via the portal.
- In addition, the portal provides customers with the ability to update their own contact information and view important documents on file with TEACH, like the Letters of Agency (LOAs), that are required by USAC during audits, etc.
- The TEACH rate structure will remain the same. Video sites always pay \$250/mo. Sites without video services that are receiving less than 5 Mbps in total services will continue to be charged \$100/mo. Sites receiving 5 Mbps or more in total services (defined as combined ITP, WAN, HPLL and video bandwidth), up to a maximum of 100 Mbps; will pay \$250/mo.
- TEACH will continue to pay the cost of video bridging.

A.2 Guidelines for Requesting TEACH Bandwidth Changes During Implementation of the Contract Extension

The maximum <u>total</u> bandwidth that TEACH will subsidize is 100 Mbps. "Total" means any combination of internet transport (ITp), WAN, HPLL, and video bandwidth (standard definition video counts as 4 Mbps and high definition video counts as 2 Mbps toward the 100 Mbps total). For example, if a high school has standard definition video and a 10 Mbps WAN circuit to an elementary school, they will be able to have up to 86 Mbps of internet transport subsidized by TEACH.

TEACH sites can receive more than 100 Mbps in total services but will be required to pay the incremental difference between the TEACH-subsidized amount and the retail cost of the service. AT&T will invoice the difference to the fiscal agent for your site.

If you are a K-12 public school, K-12 private school or CESA:

- TEACH will subsidize up to 100 Mbps of total bandwidth to one high school or one site in each school district. Incremental bandwidth increases will be based on need. Bandwidth increase requests should be accompanied by usage graphs whenever possible. See the TEACH website at When to Request Additional Bandwidth for guidelines regarding when it is appropriate to request additional bandwidth.
- For CESAs, TEACH will subsidize up to 100 Mbps to one CESA location. For satellite CESA offices, the same rules apply that apply to additional schools within one district.
- We cannot subsidize additional bandwidth to every school building in the district at <u>this time</u>. However, if other sites in a school district currently receive TEACH subsidized services such as WAN, cost neutral or cost reduction changes will be granted.
- In the future, justified incremental increases may be requested and will be evaluated and subsidized based on need and available TEACH funding. TEACH will announce when requests for incremental increases can be submitted after the first round of increases have been funded.

If you are a managed video only site:

 Under the contract, TEACH must pay a monthly add-on for video service. TEACH will subsidize up to 5 Mbps of bandwidth as well as the video service for the \$250/mo rate.

If you are a library system headquarters site:

 TEACH will subsidize up to 100 Mbps of total bandwidth to each library system headquarter location.

If you are a library site:

- Based on DPI provided library statistics:
 - If a library has less than 10 patron PCs, TEACH will subsidize up to 5 Mbps of bandwidth.
 - If a library has between 10 and 30 patron PCs, TEACH will subsidize up to 10 Mbps of bandwidth.
 - If a library has over 30 patron PCs, TEACH will subsidize up to 20 Mbps of bandwidth.
 - If a library already has bandwidth greater than or equal to 10 Mbps, justified incremental increases may be requested and will be evaluated and subsidized based on need and available funding.
 - o In the future, additional justified incremental increases may be requested and will be evaluated and subsidized based on need and available funding. TEACH will announce when requests for incremental increases can be submitted after the first round of increases have been funded.
 - o <u>TEACH is not able to fund customer premise equipment (CPE) (e.g. routers</u> and switches).

If you are technical college, private college, museum, juvenile correction facility, or state school site:

- TEACH may subsidize up 100 Mbps of total bandwidth to one site in each organization.
- o If other sites in the same organization currently receive TEACH subsidized services, only cost neutral or cost reduction changes will be granted at this time.
- In the future, justified incremental increases may be requested and will be evaluated and subsidized based on need and available funding. TEACH will announce when requests for incremental increases can be submitted after the first round of increases have been funded.

The **TEACH rates remain the same** and are based on total bandwidth per site:

- o up to 5 Mbps is \$100 per site per month
- o 5 Mbps and greater is \$250 per site per month
- Managed video sites are \$250 per site per month whether there are additional types of service at the site or not.

Remember that the site may be responsible for other costs just as they have been in the past:

- o If a telco site visit was completed, all on-site changes identified at the visit such as a power outlet for the telco equipment or conduit for telco cables.
- The customer premise equipment (CPE) may need to be upgraded or replaced to support the increased bandwidth.
- o If a site requests retail bandwidth above 100 Mbps, CPE equipment may need modifications such as the telco connection may change from copper to fiber.

Every site has the option to procure retail bandwidth directly from AT&T for the amount above the TEACH subsidization. AT&T will invoice your site for the difference between the TEACH subsidized amount and the total for the site.

New to the BadgerNet Converged Network Contract

Construction Costs

One-time installation costs under \$35,000 for a given site are still covered under the contract.

If a request requires fiber construction to a site, a quote for one-time installation costs will be provided by AT&T. One-time installation charges will be assessed for all costs above \$35,000. These costs will be evaluated and may subsidized by TEACH based on need and available funding. If subsidized by TEACH, the construction cost will be included on the annual TEACH consortium E-rate application. As a result, construction at a site with one-time costs subsidized by TEACH may be delayed until USAC reviews and approves the TEACH form 471. If the site pays for the additional one-time costs, the construction schedule will set by the applicant and their contractor.

A.3 BadgerNet Converged Network (BCN) Service Definitions

Internet Transport is a best effort data service that connects an end user site to an Internet service provider (ISP) at one of the four BadgerNet core locations. The basic service of internet transport or WAN service includes a specific amount of bandwidth. Enhanced services such as an additional port can be added if requested. *TEACH customers must have a contract with an authorized Internet Service Provider (ISP) to match the ITp bandwidth amount.*

WAN is used primarily for data and non-latency sensitive applications. The basic service of WAN or internet transport service includes a specific amount of bandwidth. Enhanced services such as an additional port can be added if requested.

Additional Port is the traditional BadgerNet method of adding services. The new service is given a port, a VPN and a set amount of bandwidth from the basic service. The service owns all of its bandwidth and does not share it with any other service, application or VPN. There can be multiple additional ports. The total bandwidth for the site is still defined by Basic Service.

Standard Definition Managed Video is a special case of additional port. Standard definition video includes 4 ports, 3 incoming sites and 1 outgoing. All ports are in the same VPN. The service also includes 3 standard definition codecs, access to the MCUs, the video scheduler and technical support from the Network Management Center (NMC). 1Mbps of bandwidth is placed with each port, for a total of 4Mbps.

High Definition Managed Video High definition includes 1 port, 1 high definition codec and 1 VPN. The service also includes access to high definition MCUs, the video scheduler and technical support from the NMC. 2Mbps of bandwidth is needed for high definition managed video. (Note: this service is not available yet.)

HPLL (High Priority, Low Latency) is an enhancement to the WAN service that is used to: (a) differentiate High Priority Traffic, such as video or VoIP; and (b) preserve end user QoS markings.

Both standard definition and high definition managed video services automatically include HPLL WAN. There is no charge for the HPLL WAN enhancement to the WAN service but HPLL WAN does need to complete a joint planning and approval process with DOA DET and AT&T.

HPLL WAN includes the port and VPN but preserves all IP TOS (Internet Protocol Type of Service), PP (IP Precedence) or DSCP (Differentiated Services Code Point) markings. The HPLL WAN service preserves all IPP and DSCP markings received on HPLL WAN ports but can only honor markings configured to fall within one of three different classes: real-time, critical data and best effort. Traffic that falls outside of these classes will receive less than best effort service.

Video Bridging Service is an add-on service to either WAN or HPLL. It is a per codec service. Video bridging provides access to the video MCUs so a user managed codec can

connect to the Internet, connect to sites with different protocols, or host a video conference with three or more participants.

Critical site is any site identified by customer for the purpose of service repair. Critical sites shall have service repair coverage on a 24x7x365 basis. Once a dispatch is determined necessary by ATT or customer for a critical site, AT&T will dispatch and have required personnel on-site within 2 hours.

A.4 TEACH Bandwidth Calculations

Billable bandwidth increments:

| | Customers Monthly Cost |
|----------|------------------------|
| 256 Kbps | \$100 |
| 512 Kbps | \$100 |
| 768 Kbps | \$100 |
| 1.5 Mbps | \$100 |
| 3 Mbps | \$100 |
| 5 Mbps | \$250 |
| 10 Mbps | \$250 |
| 15 Mbps | \$250 |
| 20 Mbps | \$250 |
| 30 Mbps | \$250 |
| 40 Mbps | \$250 |
| 50 Mbps | \$250 |
| 60 Mbps | \$250 |
| 70 Mbps | \$250 |
| 80 Mbps | \$250 |
| 90 Mbps | \$250 |
| 100 Mbps | \$250 |
| 200 Mbps | Contact AT&T for quote |
| 300 Mbps | Contact AT&T for quote |
| 400 Mbps | Contact AT&T for quote |
| 500 Mbps | Contact AT&T for quote |
| 1 Gbps | Contact AT&T for quote |

Bandwidth calculation: Bandwidth for a site is selected by the customer in a billable increment, and then assigned to the services selected for that site. At this time, the maximum amount of bandwidth that TEACH will subsidize is 100 Mbps.

Example A: School currently has 6 Mbps of 1x3 video service, 3 Mbps of WAN service and 20 Mbps of internet transport and would like to increase their internet bandwidth so that their total site bandwidth is 50 Mbps.

50 Mbps of total bandwidth - 4 Mbps of Video Service - 3 Mbps of WAN = 43 Mbps of internet transport

Example B: School currently has 5 Mbps of HPLL WAN, 5Mbps of WAN and 10 Mbps of internet transport and would like to increase all of their services so their total site bandwidth is 100 Mbps.

100 Mbps of total bandwidth - 10 Mbps of HPLL - 10 Mbps of WAN = 80 Mbps of internet transport

Example C: School currently has 50 Mbps of internet service and 50 Mbps of WAN service but they need 100 Mbps of each. The site has the option to procure bandwidth directly from AT&T for the amount above 100 Mbps. AT&T will invoice the site for the difference between the TEACH subsidized amount and the total for the site.

200 Mbps of total bandwidth: TEACH pays AT&T for the first 100 Mbps and the school pays AT&T for the incremental cost of moving from 100 Mbps to 200 Mbps

Example D: School currently has 1 Mbps of HPLL with video bridging, 3 Mbps of WAN, 30 Mbps of internet transport and 6 Mbps of 1x3 video and would like to increase their total site bandwidth to 50 Mbps.

50 Mbps of total bandwidth - 3 Mbps WAN - 1 Mbps of HPLL with video bridging - 4 Mbps of video = 42 Mbps of internet transport

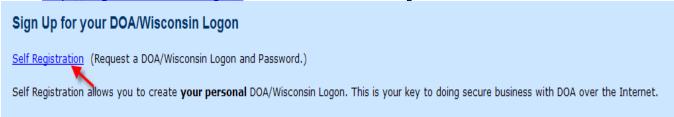
Section B: Account Creation / TEACH Portal software requirement (one time)

B.1 Create a DOA/Wisconsin logon ID (if you don't already have an ID). *Note: this is different from the State's Web Access Management System (WAMS) User ID.*

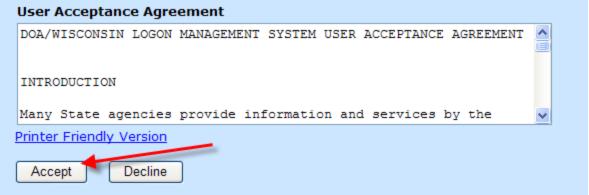
*** IT IS CRITICAL THAT YOU CREATE YOUR WISCONSIN LOGIN ID WITH THE EMAIL ADDRESS THAT IS CURRENTLY STORED IN TEACH DATA. ACCESS TO THE TEACH PORTAL IS GRANTED ONLY IF THE EMAIL ADDRESS MATCHES. ***

If you do not know your email address that is on file, please contact TEACH at teach@wisconsin.gov, or 608-261-5054.

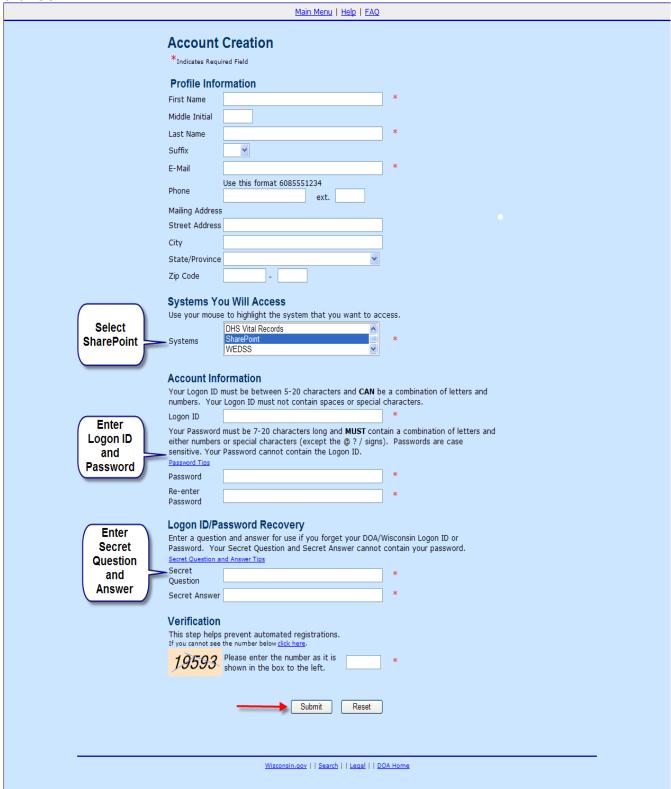
1. Go to http://register.wisconsin.gov/ and click on the Self Registration link:



2. Click the ACCEPT button for the license agreement:



3. On the ACCOUNT CREATION screen, all fields with a red * after them are required. Then click SUBMIT.



4. The following popup dialog box will appear on your screen. There is no need to contact anybody just click OK.



5. Your DOA/Wisconsin Logon profile was successfully created:



B.1.1 Troubleshooting:

- Once you create your account, you can also manage it from the DOA/Wisconsin Logon Management System Portal http://register.wisconsin.gov/
- o For assistance contact the WILMS Help Desk <u>WILMSHelp@Wisconsin.gov</u>

B.2 Getting Started in the TEACH Portal

The Wisconsin Department of Administration has developed an on-line application that allows TEACH customers to view and manage their TEACH service(s).

This system uses Silverlight. If the computer you are using does not have Microsoft Silverlight installed, you will need to go to http://www.microsoft.com/getsilverlight/Get-Started/Install/Default.aspx to download and install this software.

*** IT IS CRITICAL TO USE YOUR WISCONSIN LOGON ID. ***

If you do not know your email address that is on file, please contact TEACH at teach@wisconsin.gov, or 608-261-5054.

Logon to the TEACH portal using your DOA/Wisconsin Username and Password http://teach.wisconsin.gov/portal



Then click OK

B.2.1 Troubleshooting:

- Ensure that Silverlight is installed
- Make sure you entered your logon id and password correctly
- If you cannot login or are having problems, make a "print screen" of the error and email it to <u>teach@wisconsin.gov</u>, call TEACH at 608-261-5054, or fax it to 608-223-7750.

Section C: Using the TEACH Portal to Manage Sites and Services

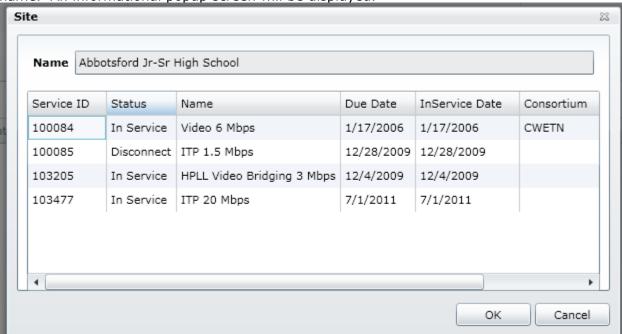
C.1 Requesting changes in the TEACH Portal

C.2 Viewing the Current State:

The "Home Page" provides easy access to your TEACH information. The screen is a list of all the sites that you are assigned as a contact. The top table is a list of the TEACH site(s) that you have access to view and submit changes or Service Requests. If there are any Pending Service Requests for your site(s) they will be displayed in the lower table.



To display what services are currently installed at a site, click once on the school or library name. An informational popup screen will be displayed.

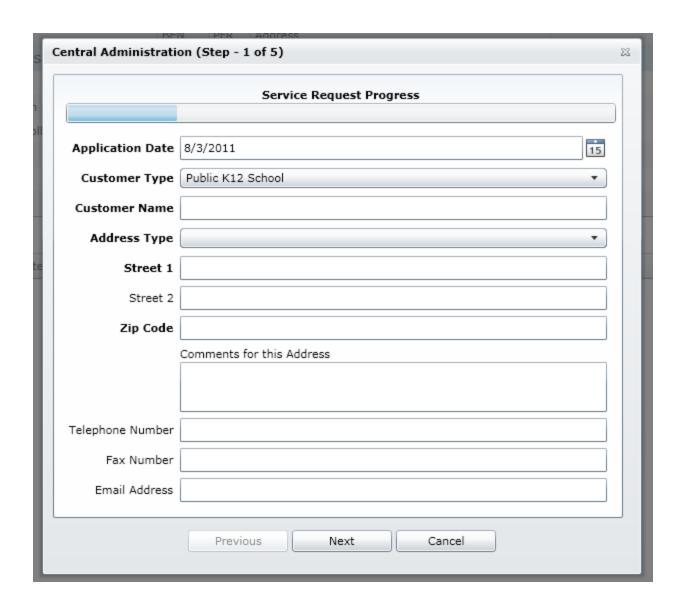


Click OK to close this display.

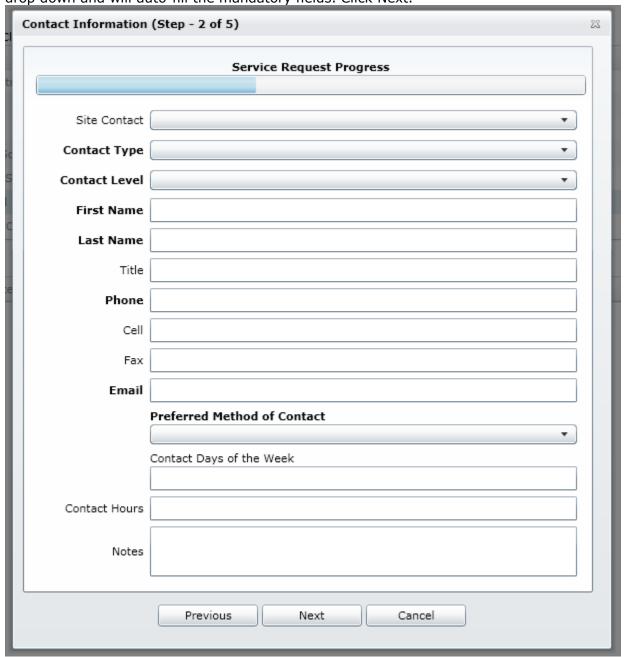
C.3 Enter a Service Request to Manage Services on an Existing Site:

To modify TEACH services for an existing site; click once on column. The instructions below will walk through the screens of information needed to create and submit a TEACH Service Request. If a field name is in **bold**, it is mandatory and may be prefilled.

Step 1 is site address and comments. The Address Type can be selected and auto-filled from stored information. A typical service change request will be to the Installed site address which is the physical building where the TEACH service is installed. The *Comments for this Address* field is where you place a narrative description about the change. Some examples for the narrative: a) Increase WAN to 50 Mbps and Internet Transport to 50 Mps on an additional port for a total of 100Mbps, b) Decrease WAN bandwidth from 20M to 10M. No changes to any other service at this site, c) Increase Internet Transport bandwidth from 20M to 50M, and d) Increase Internet Transport bandwidth from 100Mbps to 200Mbps. TEACH bandwidth=100Mbps and Retail Bandwidth=200 Mbps Retail billing contact info is name/address/email/phone. Click Next.



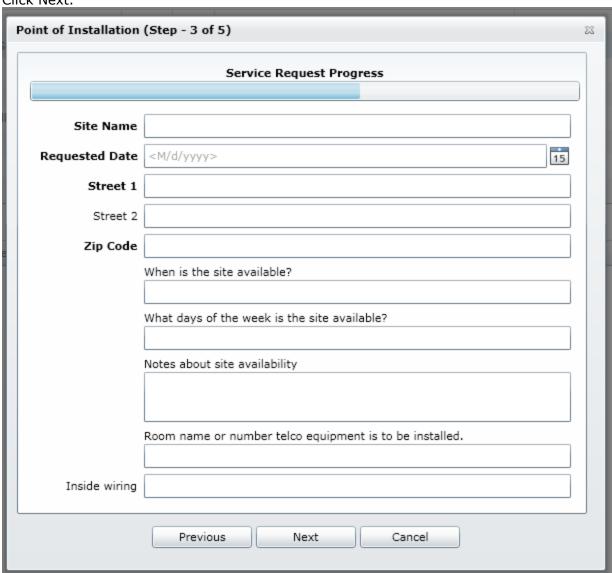
Step 2 is the Contact information. A contact name can be selected from the Site Contact drop down and will auto-fill the mandatory fields. Click Next.



Step 3 is the point of installation information and is where you request a due date for this change (lead times):

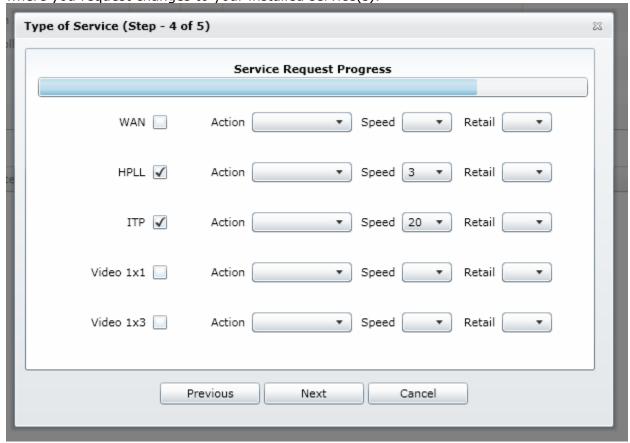
- For sites that already have at least one TEACH service:
 - New Installation of WAN or Internet Service takes 45 BUSINESS DAYS.
 - o New Installation of Video Service takes 60 BUSINESS DAYS.
 - New Installation of a combination of any service, WAN or Internet, along with Video takes 60 BUSINESS DAYS.
 - Change or upgrade to an existing service is 45 BUSINESS DAYS if dispatch or network is required, 10 BUSINESS DAYS if dispatch is not-required.
 - Disconnect of service is 5 BUSINESS DAYS.
- o For sites that *do not* already have at least one TEACH service:
 - New Installation of Service (Internet, Video, or WAN) will be determined by the local Telco Provider, and may take up to 80 BUSINESS DAYS or more to get installed.

Click Next.



Step 4 is the type of service information. All current services are already checked. This is

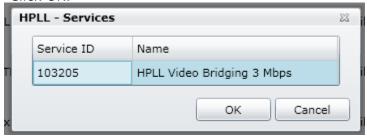
where you request changes to your installed service(s).



Follow the TEACH guidelines when selecting bandwidth increments. The first column is the service. The second column is the Action (add, change or delete). Examples: A) If a site is requesting an increase in HPLL from 3 Mbps to 5 Mbps, the action would be Change and Speed would be 5. B) If a site is requesting to delete the HPLL service, the action would be Delete. C) If a site is requesting to add WAN service to this site, the action would be Add.



If you select an action on an existing service, select the installed service from a popup selection box. Click OK.



The third column is the Speed that TEACH will subsidize.

The fourth column is the Retail Speed that the customer will be charged for directly with no TEACH subsidy. This is sometimes referred to as "split billing" or "TEACH Retail billing". If you are not requesting any Retail bandwidth do not complete this column. Click Next.

Step 5 is the authorization of this request. Enter the first name, last name and phone number of the person in your organization who is authorizing the change(s). Click Finish.



This service request is now entered into the TEACH management system. An email will be sent to the requestor indicating that the request has been received.

The TEACH Administrator will review the request. You will be contacted if there are questions or clarifications. After the TEACH Administrator approves the service request, it will be sent to the AT&T/BCN system for scheduling.

The bottom table on the main page will provide you with the status of the request. You will receive emails once the service request is accepted and scheduled by AT&T.

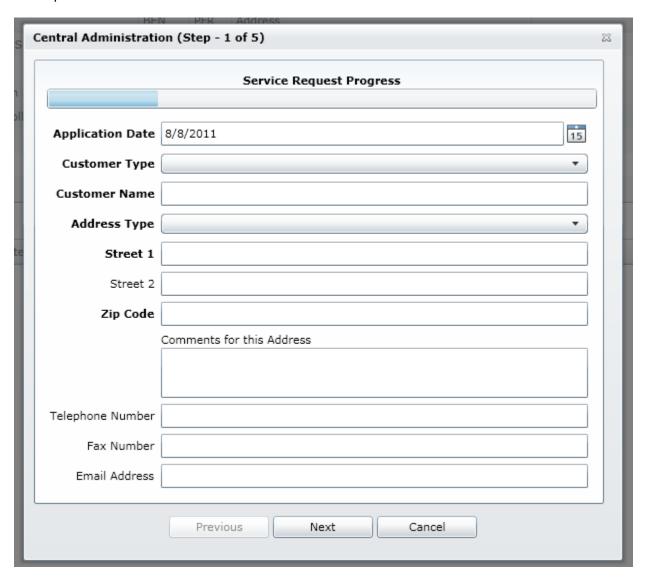
C.4 Requesting a New Site:

The "Home Page" provides easy access to your TEACH information. The screen is a list of all the sites that you are assigned as a contact. The top table is a list of the TEACH sites that you have access to view and submit changes or Service Requests. The lower table displays the Pending Service Requests for your site(s), if any.

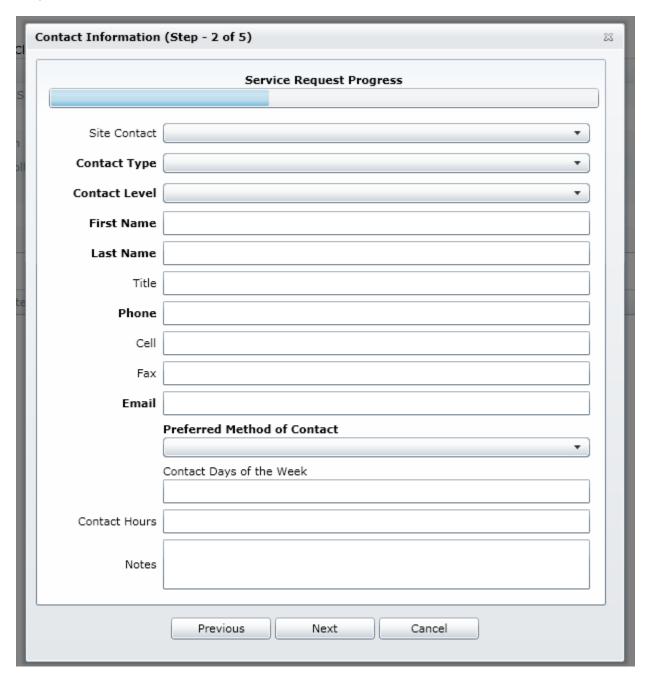


To add a new site click _____ above the Pending Service Requests: table.

Step 1 is site address and comments. The Comments field is where you place a narrative description about this new site. Click Next.



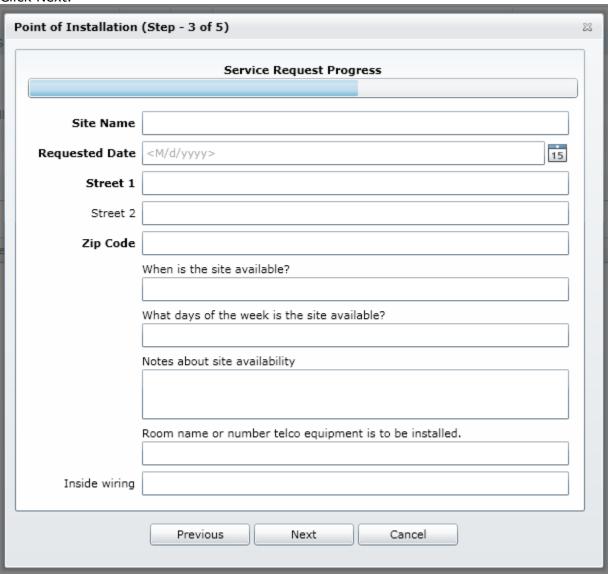
Step 2 is the Contact information. Click Next.



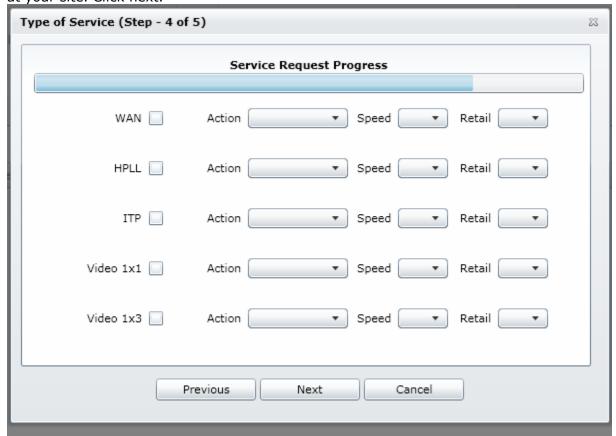
Step 3 is the point of installation information and is where you request a due date for this change (lead times):

- New Installation of WAN or Internet Service with Existing Facilities takes 45 BUSINESS DAYS.
- New Installation of Video Service with Existing Facilities takes 60 BUSINESS DAYS.
- New Installation of a combination of any service, WAN or Internet, along with Video with Existing Facilities takes 60 BUSINESS DAYS.
- New Installation of Service (Internet, Video, or WAN) without Existing Facilities will be determined by the local Telco Provider, and may take up to 80 BUSINESS DAYS or more to get installed.

Click Next.



Step 4 is the type of service information. This is where you request services to be installed at your site. Click next.



Follow the TEACH guidelines when selecting bandwidth increments. The first column is the service. The second column is the Action (select add).



The third column is the Speed that TEACH will subsidize.

The fourth column is the Retail Speed that the customer will be charged for directly with no TEACH subsidy. This is sometimes referred to as "split billing" or "TEACH Retail billing". If you are not requesting any Retail bandwidth do not complete this column. Click Next.

Step 5 is the authorization of this request. Enter the first name, last name and phone number of the person in your organization who is authorized to request a new site. Click Finish



This new site service request is now entered into the TEACH management system. An email will be sent to the requestor indicating that the service request has been received.

The TEACH Administrator will review the request and will contact you. As part of the review process you will be required to sign and return a Letter of Agency (LOA) authorizing TEACH to file for E-rate reimbursement on your behalf. The Schools and Library Division (SLD) Entity Number for your site is listed on the LOA. Please contact SLD if you do not have an Entity Number (to request via email

http://www.slforms.universalservice.org/EMailResponse/emr_select.aspx select Entity Number under the Topic Inquiry). After the signed LOA has been returned and the TEACH Administrator approves the service request, it will be sent to the AT&T/BCN system for scheduling.

The bottom table on the main page will provide you with the status of the request. You will receive emails once the service request is accepted and scheduled by AT&T.

To logout, close the Web browser.

Section D: Using the TEACH Portal to View Invoices and LOAs

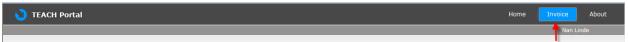
D.1 Viewing your TEACH Invoice or Letter of Agency (LOA):

Logon to the TEACH Portal using your DOA/Wisconsin Username and Password http://teach.wisconsin.gov/portal

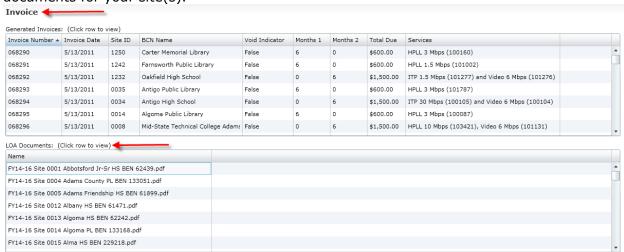


Then click OK

Then Click Invoice on the toolbar



The screen is a list of documents for the sites that you are assigned as a contact. The top table is a list of Invoices and the lower table displays the Letter of Authorization (LOA) documents for your site(s).



Click once on a row in the top table to view an invoice.

Click once on a row in the bottom table to view a signed Letter of Agency document. To logout, close the Web browser.

D.1.1 Troubleshooting:

Make a "print screen" of the error and email it to teach@wisconsin.gov, call TEACH at 608-261-5054, or fax it to 608-223-7750.