# National BILT Meeting Minutes

**CHAIRPERSON:** Matt Glover, Le-Vel

<table>
<thead>
<tr>
<th>MEETING DATE:</th>
<th>MEETING TIME:</th>
<th>MEETING PLACE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tue, November 10, 2020</td>
<td>8:30am-10:00am Central</td>
<td>Zoom</td>
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**RECORDER:** Mark Dempsey  
**RECORDING:** Available upon request  
**PREVIOUS MEETING:** August 11, 2020

## MEMBERS PRESENT

<table>
<thead>
<tr>
<th>BILT:</th>
<th>CCN educators:</th>
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| Phil Andrews, Biz Smarter | Nisheeth Agrawal, Athens State Univ  
CyndiKaye Lambach, Waukesha |
| Amy Arnold, Fortinet | Karen Ahern, College of Southern Nevada  
Dante Leon, Daytona State |
| Sai Bezawada, IBM | Garfield Anderson, Gwinnett Tech  
Xintao Liu, Herzing |
| Tom Boehner, Nutanix | Jared Ashcroft, Pasadena City College (Micro Nano ATE center) |
| Aaron Burciaga, ECS | Terryl Bailey, Allison Group  
Stephen Lyford, Wharton County Junior College |
| Susan Coefield, VMware | Laura Berry, North Arkansas College  
Rajiv Malkan, Lone Star |
| Carolyn Corbin, Center for 21st C | Pam Betts, San Jacinto  
Jim Maxson, Tulsa CC |
| Maurice Gibson, Fortinet | Ronda Black, Gallatin  
Ryan Murphy, Sinclair |
| Matt Glover, Le-Vel | Renee Blackshear, Texas State Tech  
Gregory Newman, Collin College |
| Dan Huff, McAfee | Pamela Brauda, Florida State College Jacksonville  
Nosratallah Nezafati, Tarrant County College |
| Tu Huynh, Comerica | Bruce Caraway, Lone Star  
Benjamin Oguntuna, Dallas College |
| Jim Lantrip, Tyco | David Chien, Dallas College  
Ryan Pierce, Louisiana Delta |
| Kimberlee Millikan, health care | Rodney Cobb, Dallas College  
Savitha Pinnepalli, Chattanooga State |
| Bill Morgan, Avistas | Rafat Elsharef, Milwaukee Area Tech  
Terry Richburg, Trident Technical |
| Lynn Mortensen | Ernie Friend, FSCJ  
Adam Rocke, Seminole State |
| Mark Salo, NetApp | Clair Hart, FSCJ  
Larry Rodis, College of Southern Nevada |
| Kurtis Sampson, Phillips | Susan Hoggard, Tulsa CC  
Roshani Shrestha, Dallas College |
| Candy Slocum, InterLink | Debbie Huffman, North Central Texas  
David Singletary, FSCJ |
| Scott Veibell, Cisco | Christa Jones, Dallas College  
Gordon Snyder, Holyoke CC |
| Glenn Wintrich, RDM Innovation Training | Glenn Jones, Tulsa CC  
Ed Suniga, Lansing CC |
| Kim Yohanna, Palo Alto Networks | Kyle Jones, Sinclair CC  
Susan Svane, North Central Texas |
| Chris Kadlec, Georgia Southern | Arisa Ude, Dallas College |
| David Keathly, UNT | Mark Whigham, Calhoun CC |
| David Kirk, Dallas College | Donnie Willis, North Central Texas |
| Ray Koukari, Gateway Technical | Faruk Yildiz, Sam Houston State |
| Neethu Kuriakose, Dallas College | Saad Yousef, Gateway |
| Deb Kutrieb, Wisconsin Indianhead | Solomon Zewde, Houston |

**CTC staff:** Ann Beheler, Mark Dempsey, Christina Titus, Debbie Miller, Amy Garrison
<table>
<thead>
<tr>
<th>Agenda items</th>
<th>Discussion</th>
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<tbody>
<tr>
<td>Trends/COVID impacts (BILT members)</td>
<td>Matt noted the impact of COVID on technology as society becomes more “zero touch.” Businesses slow to respond and adapt to COVID have suffered, while businesses quicker and nimble in transforming are doing well. AI has changed interactions. Matt said that in some chat tools, you can’t tell who’s a bot and who’s a real person. This is depressing the demand for traditional help desk technicians. Glenn agreed businesses either pivoted and adapted to COVID or they went out of business. The pandemic boosted widespread acceleration of innovation, especially in midsize companies who maybe were not as forward-looking as large enterprise. Glenn knows one company that ramped up remote desktops for employees in just a month. That usually takes 12 months.</td>
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<td>Trends/Automation (BILT members)</td>
<td>Glenn also talked about a new trend called “hyper-automation.” While robotic process automation (RPA) automates repetitive tasks so workers can spend their time on higher-value jobs, solutions often include many tasks. Hyper-automation uses AI to tie together all of those RPAs together into a solution set. Hyper-automation also offers the ability to do real-time data analytics. Glenn offered the example of workers monitoring social media platforms looking for certain keywords, a complex job that hyper-automation can handle in real time, offering feedback and analytics. <a href="https://www.processmaker.com/blog/what-is-hyper-automation/">https://www.processmaker.com/blog/what-is-hyper-automation/</a></td>
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<td>Tu noted that Comerica Bank years ago made a big investment in teller automation, which has paid off during the COVID pandemic. Most people now bank electronically without ever seeing tellers face-to-face. You can reach a human if you need to, but most transactions can be handled remotely. This trend will continue. His budget officers usually balk at the high security expenses, but this year they’re “all in” because of the expansion of remote work and the need to adequately secure company and customer data. Matt noted a similar transformation in telemedicine with doctors seeing patients via secure video calls. Glenn agreed that older generations who typically resisted online business and preferred in-person interaction is starting to embrace digital transactions (banking, medicine). This move to online is not a temporary glitch – it’s going to persist. As for how all of this impacts education, Matt again noted that this change will depress the need for in-person help desk or in-person bank teller positions. More and more that sort of support will be provided virtually. That change will make the cloud enabler position more important. Matt said that his company’s cloud engineers are all pivoting to become automation experts. The infrastructure students who might be getting CCNA certifications will need to move more to a cloud-enabled interface to work remotely. Matt believed the simpler user problems can be handled by those help-desk chat bots. While senior help desk people will remain in demand, entry-level help desk people may be let go. Maurice noted that cybersecurity is crossing more disciplines horizontally. Students need to be prepared for this reality, which he believes means more digital literacy curriculum for underserved populations to lay foundation for cybersecurity jobs.</td>
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| Trends/Conversational AI (BILT members) | Aaron noted that he’s seeing “conversational AI” replace call centers in more and more industries. In the financial market, there are 250 million users of conversational AI, most of whom don’t even realize they’re using it. Aaron also mentioned “computer
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<th>Trends/Hybrid cloud (BILT members)</th>
<th>Tu stated that because of hybrid cloud computing, there will be a significant demand soon for AWS and Azure skills. He also saw a growing need for cybersecurity skills to secure those cloud networks that involve sensitive data from financial and health care.</th>
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<td>Trends/No more silos (BILT members)</td>
<td>Glenn agrees with Aaron’s point that we can no longer think of these traditional roles as siloed. You can’t think of yourself as just the network guy. More and more, it won’t be “the network is down,” but rather “the system solution isn’t working.” Systems analyst KSAs will be important – this is the person who looks at the system as a whole. Glenn suggested student projects be viewed and framed from a system perspective. He also thinks detailed case studies can help teach this, to break down the problem and explain why a network specialist, for example, wasn’t enough to solve the problem. It needs to be a team effort.</td>
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<td>Trends/Blue collar AI (BILT members)</td>
<td>Matt noted that the massive amounts of data coming in from IoT sensors, smartphones, and wearable devices needs to be interpreted and analyzed. This will require workers – even at the entry-level – to know coding and understand data. This is linked to the ongoing expansion of online remote work, which will demand more cybersecurity skills to better assess, in real time, threats to the network.</td>
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| Trends/Gartner roadmaps (BILT members) | Glenn asked Aaron to talk more about the support staff that data scientists need. Aaron explained his view of “blue collar AI,” which can likely be developed at two-year colleges. These jobs don’t need higher-level degrees.  
- Farmers – work with sensors to bring in the data  
- Miners – make analyses to extract data sets  
- Welders – develop custom apps to find data insights  
- Custodians – helps move and manage the data pipelines  
Aaron agreed that a lot of this can be hyper-automated eventually, but you’ll always have someone behind the scenes making sure it all works.  
Glenn introduced the “emerging technology maps” he downloaded from Gartner for large and midsized enterprises. The size of the bubbles indicates how big the technology will be, while the color suggests the risk of implementation. Also on the map is an indication of the lifecycle – which technologies are in the planning stage, which are being piloted, and which are being deployed. These maps offer hundred of IT topics that faculty can drill down and research depending on interest or the class they’re teaching.  
Request the Gartner “large enterprise” roadmap:  
Request the Gartner “midsize enterprise” roadmap:  
Matt suggested we focus on the red and yellow bubbles because those technologies will be the ones that require educated support staff. He wondered about the market share that will be pushing on the red and yellow bubbles.

Aaron brought up the concept of “TX” – total experience. Nothing on the map will matter until it’s properly designed for human consumption. Human-centered design is important. Matt agreed and noted that TX is combining together all other experiences (CX customer experience and UX experience, for example). He uses as a TX example a shopping cart that scans and tallies the products you put into it, so that you can pay digitally at the end without ever going through the physical checkout process. This innovation will continue.

Aaron also recommended the book Sense and Respond, https://www.amazon.com/Sense-Respond-Successful-Organizations-Continuously/dp/1633691888

Candy saw a similar trend in marketing, where business use data analytics to send personalized, targeted marketing messages to customers.

Glenn mentioned “internet of behavior,” which refers to the gathering and use of personalized data. Your car’s sensors gather and analyze data. What if the car company sells that data to Jiffy Lube so they can sell you an oil change? What is the car company sells driving history data to the police? Glenn said this brings up complicated questions about who owns this data and whether it can be sold to third parties. Students need to
| **Trends/Teaching failure (BILT members)** | recognize these issues of data ownership when they’re looking at data and using data. Matt said the industry typically calls that “digital dust.”


David Chien asked how to teach students about failure. He noted that classwork usually focuses just on how to do things the right way, but in the real world data gets corrupted and plans go awry. Matt explained that in the software industry they use something called the “chaos monkey.” This system goes through the network and the software and “turns things off” to determine if the application is “intelligent enough to recover” so that the customer never realizes there was an issue. You want two or three points of access built into the software and infrastructure so that you’re always on and active and the customer experience is always great. But to get there, you have to have some failure.

Matt suggested having the student work quickly on a group project that will lead to some groups failing. Then, they can learn from those mistakes and troubleshoot to make sure it’s redundant so that when they run it again, it will work. Matt mentioned the idea of “fail redundant” so that when they run it again, it will work. Matt mentioned the idea of “fail forward.” When you fail, be sure you learn from it and that it takes you to the next level of capability. Failure doesn’t have to mean “you’re fired.” Students need to know that failure is okay under certain conditions (i.e. don’t fail during a big launch).

If BILT members have additional trends to share, send those to Matt, Mark, or Ann and we can discuss at the February 2021 meeting. |
| **CTC updates – Winter Working Connections (Mark Dempsey)** | Winter Working Connections is the CTC’s IT faculty professional development event running online December 14-16 (all day Monday, Tuesday, Wednesday). There is also a five-day Summer Working Connections event that runs each July.

84 faculty members signed up as of this morning.

Four tracks:
1 AWS Academy Cloud Foundations, closed (24 people)
2 Connected and Autonomous Vehicle System, 14 seats left
3 Microsoft Power Platform Tools, 4 seats left
4 Python for Data Science, closed (24 people)

There is a wait list for the AWS and Python tracks.

Candy noted that three trucking companies have moved into the North Texas region to launch autonomous trucking services. Ann stated that there is a new ATE national center for autonomous driving – they’re using a BILT model to define KSAs. |
| **CTC updates – Questions for the BILT (Ann Beheler and Mark Dempsey)** | **Question of twice-annual KSAs:** The CTC’s National Visiting Committee (the panel of educators and employers that reviews the grant each year) wondered if the KSAs should be updated twice a year rather than just once. The industry is changing so fast.

We surveyed BILT members in August – and all were potentially open to a second November KSA vote (n=17, 71% “yes,” 29% “maybe”).

But when we talked to the CCN educators, they explained that they really only have the
ability to make big changes once a year. A second KSA vote in the fall would not be useful. This means we have to continue to rely on the February, August, November trends talk to keep faculty updated between May KSA votes.

Ann noted that we focus on KSAs 12-36 months into the future because it takes so long to implement curriculum changes. Maybe there’s a way to do the November vote in a more efficient manner, but Ann likes the trends talk format. It can take a lot of work to process the big May KSA update. Glenn noted that if the BILT is working as it should, the KSA input is looking a year out. He agreed that a second vote isn’t ideal – extra work with little added benefit when compared to the February, August, November trends talks.

**Question of KSA vote timing:** Should we consider voting on the KSAs prior to the May meeting, rather than doing the vote in the room? If so, we could spend the entire KSA meeting discussing the vote. The ITSS grant is experimenting with this format.

Ann noted that we’ve avoided this approach in the past because there’s a fear that if employers vote ahead of time, they won’t attend the meeting. There’s also a worry of being unable to provide clear directions and context for those voting “off line” outside of the meeting. For example, some employers get confused with the 1-4 ranking.

Matt liked the idea, but would need a way to record his thoughts so he can remember later during the discussion meeting. He agreed the in-meeting discussion is essential. Glenn wondered if there’s a “question mark” answer if you don’t understand the KSA. Ann thinks maybe we can add a comment field for each KSA line. Christina noted that for ITSS, the employers have so far ignored the comments field. Ann asked if maybe they can print out a hard copy and handwrite comments on it.

Matt wondered if the BILT can vote a week early and then get the preliminary results back, so that he can better prepare for the meeting by seeing the KSA vote averages in advance rather than in the room. Amy liked this idea.

Aaron also liked this idea, but added it’s important to set the context up front. For example, the BILT needs to understand the KSAs are intended for entry-level hires. Maybe a short YouTube video could be created to explain the context.

Aaron also asked if maybe he could be sent via text or email immediately before the meeting a reminder of his votes so he can have it open and ready.

Aaron thought there should be a “what’s missing” field in the voting form for each KSA section.

Ann explained a format of super-BILT and sub-BILTs that was discussed at a recent CCN meeting. The super-BILT which includes SMEs from all disciplines meets once a year, but then the more discipline-focused sub-BILTs meet other times during the year to better focus the KSA discussion with just those specific SMEs. Most BILT members are not experts in multiple disciplines and industries.

**IT Skill Standards update**  
(Ann Beheler and Christina Titus)

This ATE project grant is developing forward-facing job skills (using the BILT model with industry SMEs) for the top ten IT job clusters.
These clusters are completed and the results have been posted to the ITSS website - [https://connectedtech.org/itss-2020/](https://connectedtech.org/itss-2020):

- “Data Analysis & Predictive Modeling” cluster
- “Technical Support” cluster
- “Infrastructure” cluster
- “Technical Project Management” cluster

20-25 thought leaders convened yesterday to discuss the remaining three job clusters (the first seven were identified in February 2019 across four meetings with 98 high-level SMEs). That meeting agenda covered the difference between systems analysts and business analysts, how to handle the large software development cluster, plus also talks about how to incorporate new technologies like AI and machine learning, 5G, IoT, AR and VR. Glenn agreed that it was a great, productive meeting.

She invited the BILT members to attend the next meetings on November 17 and December 2. There is no vote – just a discussion.

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**BILT-related survey results – Aug 2020 (Ann Beheler and Mark Dempsey)**

**BILT member survey (n=22):** How does being an active member of our BILT help you and your company?
* Preparing students for workforce (8 responses)
* Connecting to other employers, hearing industry trends (7)
* Connecting with educators (6)
* Giving back to community/industry (2)
* Getting access to qualified students (1)

This was a question our NVC wanted the CTC to ask. If the educators on the call have not done with this their BILT, they should. Ann said it’s important that you know your BILT’s “WIIFM” - what’s it in for them? It will be different for each BILT member.

**CCN educator survey (n=46):** What’s the most challenging part of the BILT model to implement?
- 51%, Meeting 3-4 times a year
- 29%, Dividing the BILT into sub-disciplines
- 29%, Cross-referencing BILT KSA vote to curriculum
- 27%, Conducting annual KSA vote
- 22%, Allowing BILT to talk industry trends

These answers will inform December 2020 BILT “break time” videos that Ann will be recording. Short-form videos focusing on a specific BILT element and addressing possible challenges to implementing that element.

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**Group discussion – employability skills**

The CTC posts a LinkedIn poll each month. Here are some responses to the question:

What do you consider to be the most essential employability “soft” skill?
- Emotional intelligence - enables folks to be a good team player
- Ability to work in teams
- Meet deadlines
- Time management
- Technical writing
- Critical thinking
- Attitude - Attitude plus aptitude allows you to achieve your career altitude (Matt likes this phrase, but it’s a variation of a famous Zig Ziglar quote)
- Gauging your audience
- Changing and adapting as needed to circumstances
- Developing a professional network (LinkedIn)
Scott noted also the need to speak to your audience. His staff needs to be able to effectively communicate both to an IT expert and also to an executive who isn’t as IT-savvy. Mark S. agreed.


**Next Meeting: Tuesday February 2, 2021 (8:30am-10am Central) via Zoom**

**This is a change from the date we announced at the meeting. We'd originally announced February 9 but we need to push the meeting back one week to February 2 because of an ITSS job skills cluster meeting set for February 9.**