National BILT Meeting Minutes
"Data Management" Job Skills Vote and Discussion

MEETING DATE: **Tuesday, March 24, 2026**	MEETING TIME: 11:30am-1:00pm Eastern	MEETING PLACE: Zoom
RECORDER: Mark Dempsey	RECORDING: Available upon request	PREVIOUS MEETING: Industry trends meeting – February 10, 2026

MEMBERS PRESENT

BILT:		
Randy Dineen, Infoverity	Jeff Magnuson, SpartanNash	Mark Richter
Matt Glover, Global CIO	Priti Malkan	Todd Warner
Denis Kosar	Sreekanth Muktevi, YASH Technologies	Kim Yohannan, MongoDB
Durga Krishnamoorthy, Cognizant Technology Solutions	Lynne Reynolds, Milestone Technologies	Teresa Younkin, Mosaic Life Tech
EDUCATORS: Georgia Gwinnett, Lansing Community College, Sam Houston State Univ		
NITIC STAFF: Ann Beheler, Mark Dempsey, Christina Titus, Larry McWherter (NITIC principal investigator), Alie Hernandez, Stephanie Schuler, Deb Hecht, Diane Meza, Andie Bonkowske, Grayson McKeown		

Agenda items	Discussion
NITIC and BILT overview	Mark and Larry provided an overview of the NITIC grant, then explained that the goal of today's meeting is to prioritize job skills for entry-level data management technicians (those who will be working with the data itself) in the next 12-36 months. Larry welcomed the BILT members and told them their anonymized feedback will be widely disseminated to educators nationwide. He also noted educators on the Zoom call are invited to primarily listen actively. Ann provided an overview of the BILT (Business and Industry Leadership Teams). BILTs are business advisory councils that put employers in a co-leadership role. BILTs have two goals – aligning curriculum to workforce needs and building and deepening the relationship between educators and employers. Ann noted the discussion after today's vote is just as important as the vote itself. Ann explained the 1-4 voting scale. Each job skill item will receive its own individual vote. * "4" means absolutely must be in the curriculum * "3" means should be in curriculum * "2" means it's a "nice to have" * "1" essentially means delete Ann and Mark pointed out that "knowledge" items refer to an awareness. Knowing about something does not mean you know how to do it. "Skill" items refer to practical know-how. NITIC will offer a separate voting link for educators to conduct their own prioritization. Using a QR code (and URL in the chatbox), the SMEs voted electronically. Anything scoring 2.6 or less will be discussed because, typically, items with scores that low are left out of the curriculum. But the BILT is welcome to discuss any item.

Knowledge items	***K17 – Knowledge of cyber defense and vulnerability assessment tools and their capabilities, 2.69 average*** One employer voted high because if you're managing data, understanding cybersecurity defenses and vulnerabilities is critical. Another employer noted that this would be a "management-level diagnostic" an entry-level person would not know. Another employer disagreed since data engineers are instructing ETLs, putting together data lakes, accessing APIs and other data access layers. He wonders if the vote split is because the BILT isn't sure if we're educating a cyber professional or a data engineer. He rated this high, other Ks he rated lower because those seemed better suited to an entry-level cyber technician. Another employer agreed this seemed like a K for a junior level engineer or a SecOps person, not a data engineer. One employer noted that a majority of new hires will go to smaller business with smaller support teams. For that reason, this K is important for students. Another employer agreed that new hires at small businesses need broader knowledge. Cybersecurity is one of the top things they need to know about outside of data storage. BILT seemed to agree to keep the K even if the votes are split. **ACTION: consider keeping K17.** ***K24 – Knowledge of network access, identity, and access management (e.g., public key infrastructure, Oauth, OpenID, SAML, SPML), 2.46 average*** One employer is using this K right now at his job. He thinks understanding how you access the data and who can access the data is very important. Another employer agreed that in health care this is essential. Anyone who is using or accessing the data needs to understand "this whole architecture piece." Another employer – who voted this low – wasn't sure how this helped someone who's designing the data storage. A lot of these things will be handled by the application; the data management people don't need to know it. Another noted that a K is just "knowledge of" rather than knowing how to do it. From the chatbox: "Access management was voted higher from my POV as a DBA would need knowledge of these." **ACTION: consider keeping K24.** ***K29 –Knowledge of the capabilities and functionality associated with content creation technologies (e.g., wikis, social networking, content management systems, blogs), 2.54 average*** One employer wondered if "content creatin" includes Gen AI. He thinks it should because industry is moving to AI adoption and employers will expect new hires to come in with a good understanding of Gen AI and other AI automation tools, even with regard to data. Another employer agreed that scraping information off the net – crowdsourcing – is vital. One employer isn't sure how this connects to storing and securing data. To him, these Ks are about what does this person need to know to secure the data. Things like CMS are in presentation later. He voted this low. Another employer replied that the applications that use wikis and content management systems are in the backend. That's the data storage. Ann noted that a challenge with this is that we don't know where a student will end up – this isn't incumbent training; this is general knowledge to help a student interview well and get a job. Another employer thought K29 was jus about understanding the capabilities and functionality of content creation technologies. Do you know what content technologies are out there and how to access them? He voted this a 3. Another employer was looking at this in a "compartmentalized manner" – there's the presentation of the data, the usage, and then the

	storage. Things like KMS and CMS are in the consuming world. For him, though, K29 is about making sure the database is correctly architecture, normalized, and secured based on company protocols and the law. He agrees with what's been said but he's looking at K29 differently. Another employer countered that a new hire at his company may not have the know-how to tie in new creation technologies. He agreed that "cloudsourcing" and Gen AI solutions are impacting all businesses. He suggested an "e.g." to K29. Another employer suggested changing the language – what if it was "knowledge of capabilities and functionalities associated with content and data sharing" rather than "content creation technologies"? Adding Gen AI as an example would be okay since it connects with data engineering. Other BILT members liked this idea. The content comes from the business, not the technicians and engineers. But then another employer wondered about keeping K29 as is, but then also adding this new K as a separate item. To this employer, the original K29 seemed to be about managing a SharePoint-style collaborative space, which may be something to learn during onboarding. There was some debate about this. One employer thinks the spirit of K29 is about managing access and roles. By removing "content creating technologies" he worried that K29 was now irrelevant; he does not want to change it. The BILT then discussed leaving K29 as is and then adding a second new K with the proposed change. The original K29 will keep the "content creation" idea and then a new K looking at "data sharing." The BILT seemed okay this approach, although one employer pressed again that content is not created by the technicians and engineers. Another employer replied that CMS (which is included in K29) is controlled by data technicians and engineers who control access and roles. Maybe remove "content creation technologies" and replace with "content management system." Then maybe "content creation" is in the brackets. The BILT liked this idea better. **ACTION: consider keeping K29 but also adding a new K that replaces "content creation technologies" to "content management systems."** ***K33 - Knowledge of how IT supports the organization's core business/mission processes, 3.00 average*** One employer asked about the way it's written. Organizations vary so widely, how can faculty come up with a way to teach this? There's a similar concern with K43. Another employer read K33 as new hires needing to know how IT supports business processes but agreed that it could be tough to teach something that will be so varied. Ann noted that case study examples can help, emphasizing that students need to pay attention to business goals when they're hired. Another employer noted that, to him, this is about a new hire understanding who IT's customers are. The end goal is to make a profit for the company. If what they're doing or not doing is hindering that, then it's a problem. He liked that this ties in so nicely with data management. Another employer agreed that his company expects new hires to understand high-level business processes, like a purchase order. What are generic business workflows and how does IT support those? One employer suggested a rewrite to "Knowledge of IT systems and data architectures enable and optimize common organizational processes and business outcomes across industries" with examples like sales, operations, finance, customer service. He also likes the idea of the example including "how data and systems enable decision-making efficiency and value creation." From the chatbox: "For K-26, I think it's usually learned on the job within specific security stacks. So rated nice-to-have considering other high priority learning areas they must upskill before landing a job." From the chatbox: "My interpretation was the new hire needs to understand how business strategy is mapped to their technical understanding."

	From the chatbox: "When I worked for a large international forest products company, IT was viewed as a cost center only and not a value enabler or a strategic partner. I think the comments about "at the end of the day, the company needs to be profitable and successful and IT is integral to that". Agree with that adaptation." From the chatbox: "A nuance i would add would be that IT also needs to understanding the impact of performance of the various systems supported." From the chatbox: "Understanding of how IT systems and data architectures enable and optimize common organizational processes and business outcomes across industries." **ACTION: consider revising K33 to "Knowledge of how IT systems and data architectures enable and optimize common organizational processes and business outcomes across industries (e.g. sales, operations, finance, customer service) including how data and systems enable decision-making efficiency and value creation."** ***K43 – Knowledge of an organization's information classification program and procedures for information compromise, 3.23 average*** As for making a similar change to K43, one employer suggested that this was about the particular nuance of the data classifications. Different businesses will have different needs when it comes to classifying and securing different kinds of data. He noted that FedRAMP, which larger businesses may follow, has very specific protocols. Another employer expressed concern about the long list of examples and the limited amount of classroom time community colleges have. He scored this one lower because he's aware curriculum space is limited. One employer suggested a rewrite to "knowledge of information classification models, data sensitivity levels, and industry standard practices for preventing, detecting, and responding to data compromised incidents." The BILT seemed to like that, especially one who noted he's very much interested in prevention. **ACTION: consider revising K43 to "Knowledge of information classification models, data sensitivity levels, and industry standard practices for preventing, detecting, and responding to data compromised incidents."** ***K49 - Knowledge of replication services, 2.69 average*** One employer isn't sure new hires would need to know how this especially with the process being automated in many cloud providers. The BILT discussed making it more about "awareness." One employer noted it's important for students to understand how data is being replicated – or if it isn't. Amazon has geographic locations spread far apart just for replication. Another agreed knowledge of anything around the data lifecycle – like replication – is important. **ACTION: consider making K49 to "Awareness of" rather than "Knowledge of."**
Skills items	***S14 – Skill in using various operating systems (e.g., Linux, UNIX, Windows), 2.58 average*** One employer noted that new hires need a background in scripting. Understanding how a database works isn't enough because you're always tied to whatever OS you're using. Another employer ranked this low because they need to know about it but not know how to do it. One employer struggled with how to vote on this. Does the new hire need to be able to successfully log into Unix or Windows and navigate to the data? The BILT debated on the level of skill needed. One employer explained that the person doing the data engineering often has

	to be the one who installs and creates that initial database software, which means having knowledge of the OS and scripting within that operating system is very often vital. Another employer agreed that students need to know about it but also have some degree of skill. One employer noted that he just installed Git repository and had to connect a MySQL database to it, which meant he had to understand the networking between it and make sure that all the other containers could access it. That was in addition to also creating the initial database. The BILT was okay keeping it as a skill. **ACTION: consider keeping S14.**
Voting for next time	Ann asked the BILT what items need to be included for the next job skills vote. One employer suggested agentic AI concepts and **agentic agents**. Specifically, he's interested in students understanding tools and skills used in common applications and data workflows, along with associated risks, such as hallucination, data leakage, improper automation. Another employer agreed that those are specific to data management. Scripting was king before, but agentic agents will be the king of the future and very soon. One employer noted there are already "landmark lawsuit cases" where people who are giving AI agents access to company-sensitive data, which makes it public. Employees need to be very careful – and it starts with the data management technicians and engineers needing to understand how this all works. Another employer noted that his company will not allow any AI to be used in the cloud – anytime you upload something to a cloud-based AI, they have it. Another employer explained they created their own internal version of ChatGPT to avoid accidentally sharing company data with the internet. Another employer wanted to clarify there are two issues here: one is using agentic agents to do work in the data space, the other is to "sharpen" knowledge and skills related to cybersecurity and agentic agents, especially the **"ability to use AI-assisted tools"** that support data engineering tasks. This would include generating queries, validating outputs, automating simple workflows, and applying guardrails to ensure accuracy, security, and reliability. This is different than the skill of using agentic AI – this is a separate skill about knowing how to provide security guardrails. Another employer wondered about **"effective naming techniques."** Students should have knowledge of that. Whether you're building a database or working with data from a governance perspective, effective naming of the attributes and the metadata that you're working with is a critical skill. His team is "ingesting" new data all the time and they often have trouble because of inefficient naming – "calling things what we think they are, but not what they really are." You often have to go back and wonder why you named that field or attribute what you did. He suggested that students – as they develop hands-on skills and create class projects – think about how to effectively name something. One employer noted that SAP has "horrible" naming. From the chatbox: "I believe that skills are not part of entry level courses. It might be an advanced specialization e.g. DBA, Solutions architect, data integration." Another employer mentioned **AI governance**. Too many people have taught themselves how to use LLMs and that doesn't always make them responsible users. From the chatbox: "I work in AI Governance-and we are seeing lawsuits regarding intended use and provenance of the data."

	One employer mentioned **MLOps and observability**. It's one thing to be able to build or train data models, but students also need the knowledge to monitor and identify the trends. There are several open-source tools available for this. Another employer suggested **"technical storytelling."** This could include user stories, but also about how technicians and engineers need to explain a project or demo to business stakeholders. Why are they doing what they are doing, why is it important to the business, and what impact will it have? This may include providing a cost-benefit analysis. Students need to be able to articulate the "technical story" of things. One employer proposed skills in **"data normalization, retrieval optimization, and levels of encryption at rest or in transit"** which is more fundamental but still important. From the chatbox: "**Knowledge of Integrated Development Environments (IDEs)** such as VS Code and PyCharm."
Conclusion	Ann mentioned a 30-minute March 30 meeting to talk further about AI skills. The BILT Is invited to attend. The question she wants to ask: how technical does an "intro to AI" class need to be or should schools focus more on broader "AI literacy" classes? Ann encouraged the BILT to contact NITIC if they had any other suggestions or ideas. Larry thanked everyone for their time and expertise.
Next Meeting: Tuesday, April 28 (9:30am-10:30am Central/10:30am-11:30am Eastern) – IT industry trends	