

NS2024

APRIL 15 - 17 | ANAHEIM, CA

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Niagara Management for the Enterprise



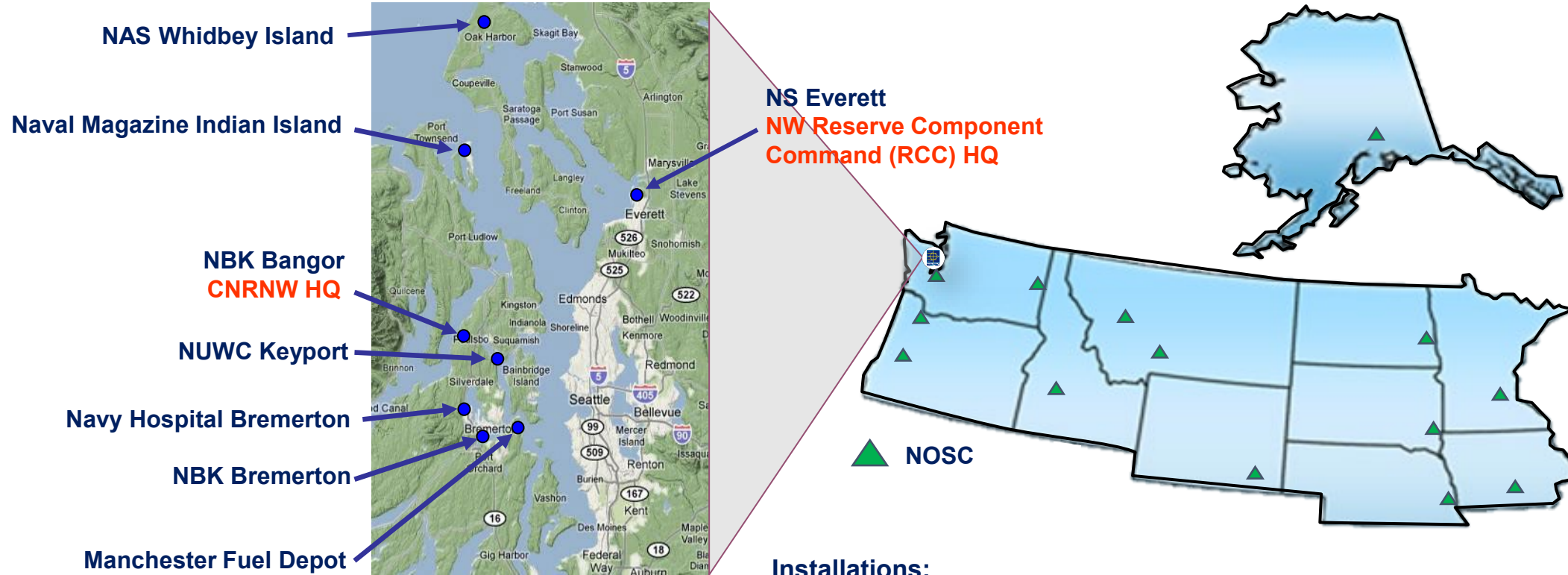
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SPEAKERS

- **Sean Stuart** - is an Information and Operation Technology Specialist working for NAVFAC NW, where he plays a pivotal role in ensuring the seamless integration of technology, cybersecurity, and control systems, particularly leveraging Niagara technology. With over 18 years of experience in the government and a strong background in controls and automation, including expertise in the Niagara Framework, Sean is dedicated to optimizing operational efficiency and ensuring the cybersecurity of control systems within the government sector. His comprehensive understanding of control systems, coupled with a deep knowledge of cybersecurity best practices, enables him to provide invaluable insights and solutions to fortify the organization's digital and physical infrastructure.
- **Michael Hansen** - is the Information Systems Division Supervisor for NAVFAC NW. He leads a team of systems analysts and software developers consisting of customer focused, high performing cyber security professionals who provide innovative technical solutions. Michael is dedicated to ensuring that NAVFAC NW remains at the cutting edge of information technology, enabling the organization to achieve its mission-critical objectives efficiently and effectively. His expertise in system engineering has been instrumental in driving digital transformation initiatives that have positioned NAVFAC NW at the forefront of technological innovation.



NAVY IN THE PACIFIC NORTHWEST



Geographic Challenges

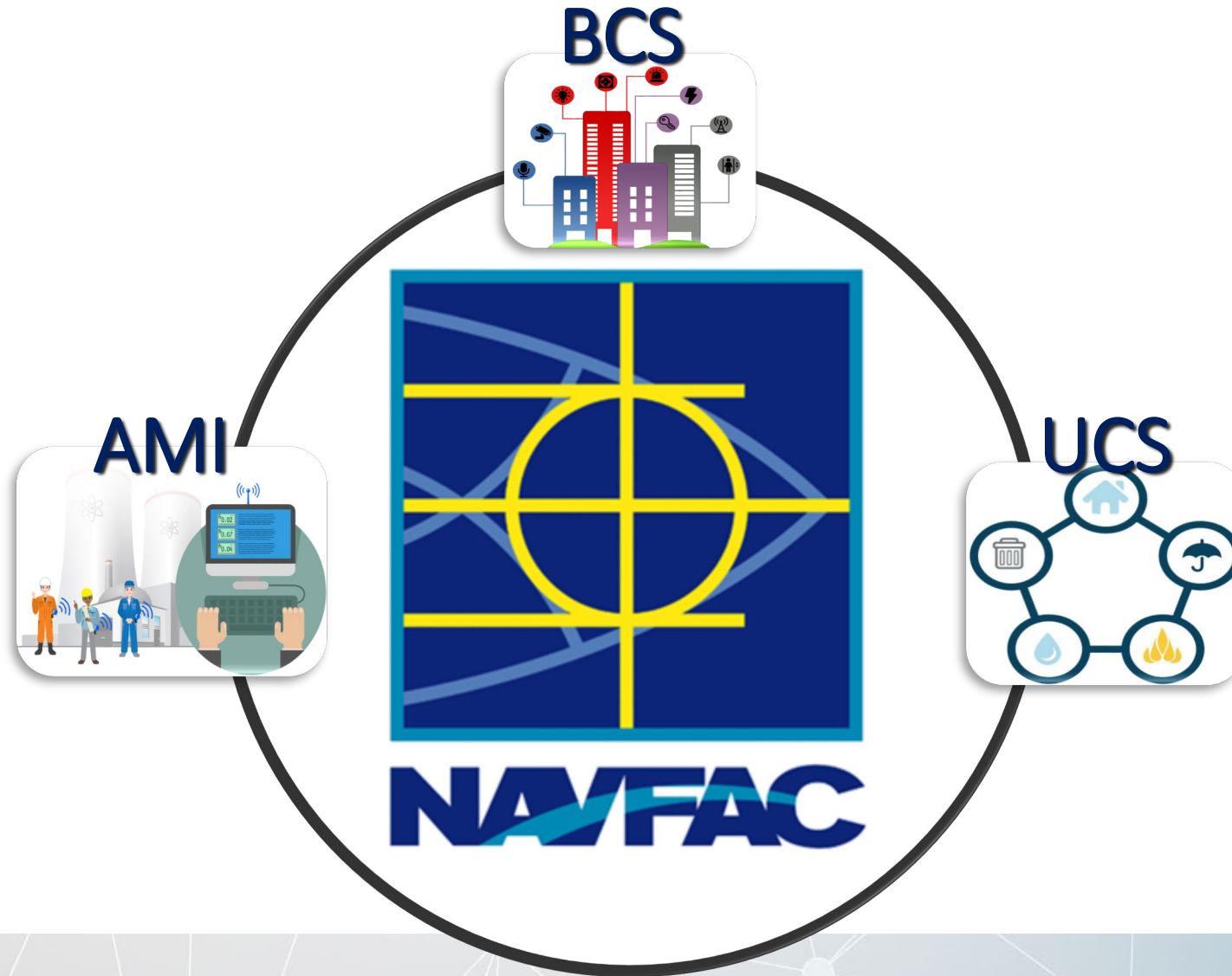
- Most inter-installation travel requires ferry
- Traffic congestion and pre-ferry wait times
- Time and expense to command

Installations:

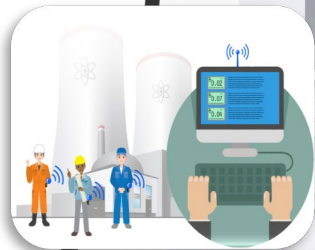
- NB Kitsap (Bangor, Bremerton, Keyport, Manchester)
- NAVSTA Everett (Jim Creek, Smokey Point, Pacific Beach)
- NAS Whidbey Island (Ault Field, Seaplane Base)
- NAVMAG Indian Island

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FACILITY RELATED CONTROL SYSTEMS

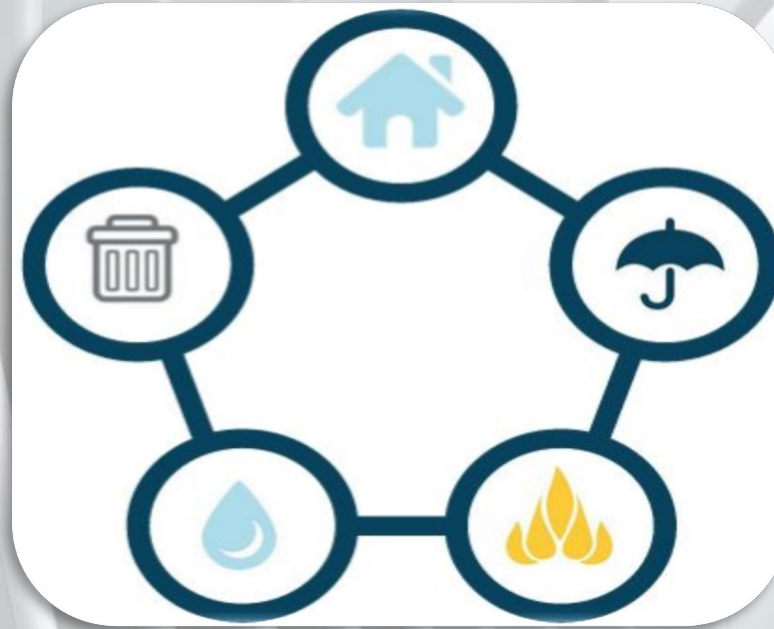
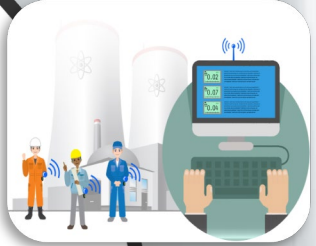


FACILITY RELATED CONTROL SYSTEMS



Building Control Systems

FACILITY RELATED CONTROL SYSTEMS



Utility Control Systems

FACILITY RELATED CONTROL SYSTEMS



Advanced Metering Infrastructure

FACILITY RELATED CONTROL SYSTEMS



400+ JACES



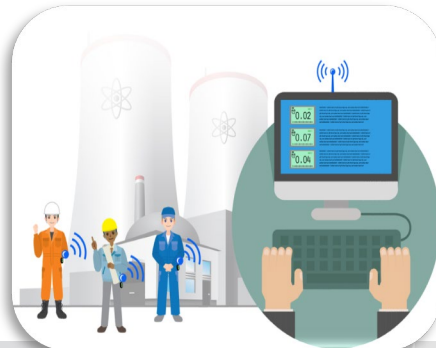
12,000+ Networked Controllers



1,700+ Meters



600+ Switches



NAVFAC NW CONTROLS HISTORY

Pneumatic Controls



DDC



Niagara Integration

niagara ax

Niagara 4



NAVFAC NW CIO1



30+ years ago

20 years ago

15 years ago

9 years ago

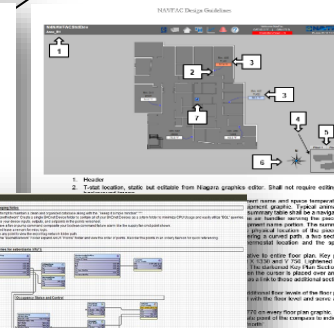
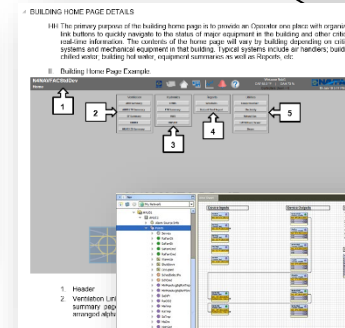
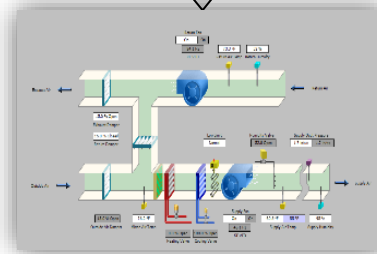
6 Years ago

Future

The Wild West

AX Standards

Niagara and Control Standards

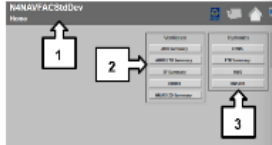


NIAGARA STANDARDS

BUILDING HOME PAGE DETAILS

HH The primary purpose of the building home page link buttons to quickly navigate to the status, real-time information. The contents of the building systems and mechanical equipment in that building water, building hot water, equipment status.

II Building Home Page Example:



- 1 Header
- 2 Ventilation Link summary page arranged alpha

BAxxxx

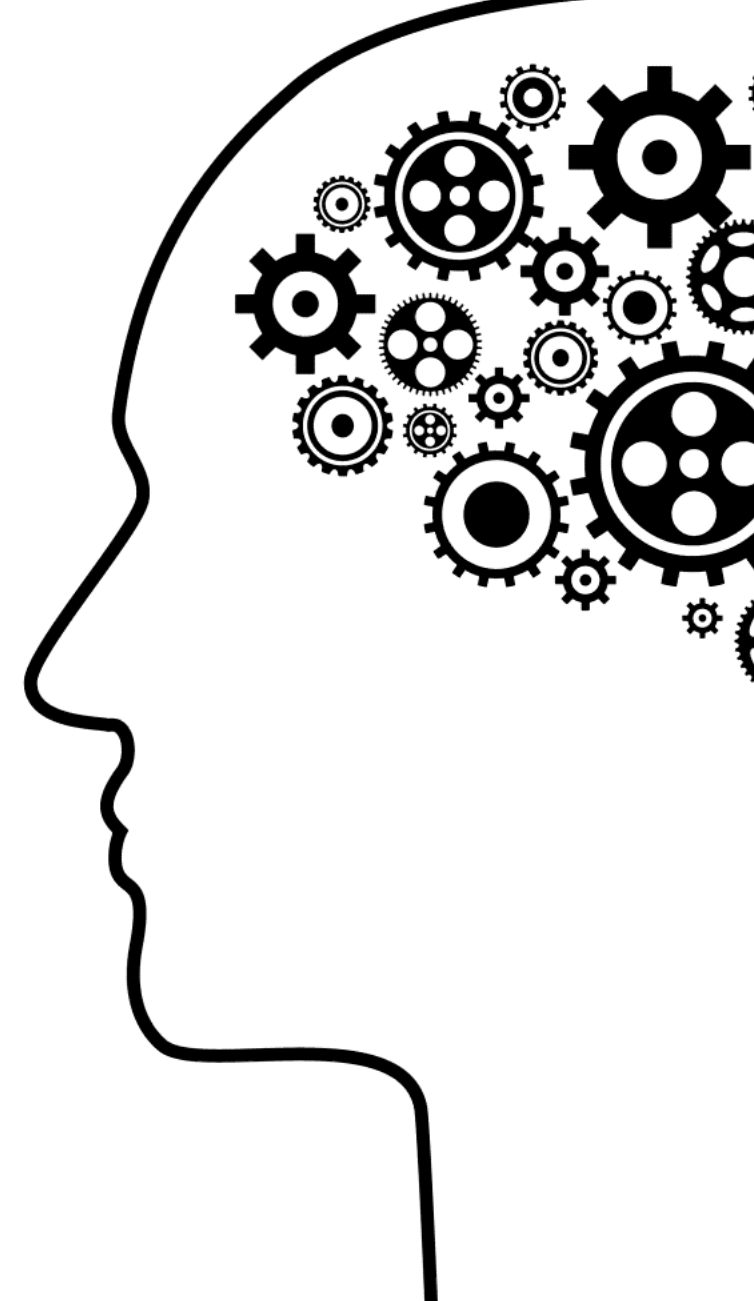
Review By:	#VALUE!				
Category	Config	Station	Task	Contractor Initials	CIO Initials
-	Nav Tree Order				
-	-		Order under Config folder must be as follows Services, Drivers, Building and BuildingSchedule		
-	-		Order under Drivers folder must be Home, NiagaraNetwork, other assorted networks and then TechNotes		
-	Building Folder				
-	-		This folder is named "Building" and located in the root of the Config		
-	-		Global point for the building such as OATmp, Time/Date, BuildingShutdown and BasewideShutdownToSchedSelect		
-	-		BasewideShutdownToSchedSelect needs to be linked to every SchedSelect in unit schedule		
-	Scheduling				
-	-		The Building Schedule folder located in the root of Config		
bql- Schedule Link Test	-		The Building Schedule is named "Schedule" and links to Unit Schedule selects of each scheduled unit.		
-	-		Building Holiday Calendar named "HolidayCalendar"		
-	-		HolidayCalendar is referenced in the Building Holiday Calendar		
-	Point Extensions				
-	Export Tags				
bql- Point Tag	-		Export Tags on all points used in a graphic or with a history extension		
bql- Point Tag	-		Supervisor Station should be empty		
bql- Point Tag	-		Export Tags property: Station Slot Path = "slot:points/%networkFolderPath%"		
-	History				
-	-		Look through HistoryService to verify that all histories are named correctly.		
-	-		Not Histories in fault or disabled		
-	-		In HistoryService make sure ALL entrees under column extension are named "History".		
bql- History List	-		History Name = %parent.parent.parent.name%%parent.name%		
bql- History in Points	-		All control points with the exception of "Settable" Stpts shall have a history extension		
-	Alarm				
-	-		The AlarmService shall only have the objects specified in spec. See comment		
-	-		The AlarmService "StationRecipient" remote station equals "nia01"		
bql- AlarmClass Check	-		GeneralAlarmClass, priority 255		
bql- AlarmClass Check	-		CriticalAlarmClass, priority 1		
bql- AlarmClass Check	-		CtrlrDownAlarmClass, priority 30		
bql- AlarmClass Check	-		SecurityAlarmClass, priority 20		

27	Status Sheet	BAxxxx	UnitCheck	+	BlrAlm	Boiler Alarm	BLR-ALM
28						Boiler Alarm Count	BLR-ALMIOff-On

SS. Example VAV Overview Page (one page per air handling unit not to exceed 20 units per page).

CHALLENGES

- **Multiple Customers/Partners**
 - Each Public Works Department (PWD) has its own leadership structure, tenants, and mission
- **Integration and Sustainment**
 - Lifecycle Management
 - FRCS Standardization
 - Managing SMA(s) and licensing
- **Project Management**
 - Ensure we are part of the process early; ensure we have visibility of the project schedule (connection/hardening)



CHALLENGES FOR DOD

- **Procurement**

- Federal Acquisition Regulation (FAR)
- Fiscal Year / Appropriations
- Methods of procurement
 - Contracting
 - Government Purchase Card
 - GSA/3PL

- **Security**

- Physical Security
- Clearance
 - Base and facility access
 - Account Authorization
- Government Equipment



BEST PRACTICES

- Design for the future
- Standards
 - Naming
 - Hierarchies
 - Programming (wire sheets)
 - Modules and Program Service
 - QA/QC
- Resilient System Design
- Documentation
- Cyber Hardening
 - Standard security configuration
 - Integration with standard cybersecurity services
- CIA – emphasis on A

